"A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE REGARDING LEARNING DISABILITIES OF PRIMARY SCHOOL CHILDREN AMONG PRIMARY SCHOOL TEACHERS OF SELECTED SCHOOLS AT APPAKUDAL, ERODE DISTRICT"

By

K. RENUGAMBAL

Dissertation Submitted to the

THE TAMILNADU DR M.G.R. MEDICAL UNIVERSITY,

Chennai, Tamilnadu

In partial fulfillment

of the requirements for the degree of

Master of Science

IN

Paediatric Health Nursing

Dharmarathnakara Dr.Mahalingam Institute of

Paramedical Sciences & Research

Sakthi Nagar, Bhavani, Erode

March 2010

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The Tamilnadu Dr. M.G.R. Medical University, Chennai

In partial fulfillment of the requirement for

Degree of Master of Science in Nursing

VIVA VOCE :

1. **INTERNAL EXAMINER:** ----------

2. **EXTERNAL EXAMINER:** ----------

MARCH – 2010

ENDORSEMENT BY THE RESEARCH GUIDE

This is to certify that the dissertation entitled **"**a study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected school at Appakudal, Erode district**"** is a bonafide research work done by **K. Renugambal** in partial fulfillment of the requirement for the degree of **Master of Science in Child Health Nursing.**

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ENDORSEMENT BY THE HOD, PRINCIPAL/HEAD OF THE INSTITUTION

This is to certify that the dissertation entitled "a study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected school at Appakudal, Erode district" is a bonafide research work done by K. Renugambal under the guidance of **Prof. Mrs. R. Vasanthi**, **of Department of Child Health Nursing**

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ACKNOWLEDGEMENT

I bow in reverence of **lord almighty,** the foundation of the knowledge and wisdom whose salutary benign benison enabled me to achieve this target.

I wish to express my sincere appreciation and owe a deep sense of gratitude to all those who have contributed to the successful accomplishment of this task.

I am immensely grateful to **Sri Sri Sri Balagangadharanatha Mahaswamij, President SACST MUTT, Bangalore and Chairman Dr**. **N**. **Mahalingam,** Sakthi Group of companies, for giving me an opportunity to undertake the course at Dharmarathnakara Dr Mahalingam Institute of Paramedical Science & Research Sakthinagar.

I am grateful to our **Sri B.T. Ramachandra,** Secretary and Correspondent and Dharmarathnakara Dr Mahalingam Institute of Paramedical Sciences & Research, for giving me an opportunity to undertake the course at Dharmarathnakara Dr Mahalingam Institute of Paramedical Science & Research Sakthinagar.

My heartfelt thanks to **Prof. (Mrs.) R. Vasanthi, M.Sc Paediatric Nursing, Principal,** Dharmarathnakara Dr. Mahalingam Institute of Paramedical Sciences & Research, for the encouragement, inspiration, support as well as for providing all facilities for successful completions of this study. Moreover, it gives great pleasure to thanks with deep sense of gratitude and respect for guiding us a lot in the Department of Paediatric Nursing. Her inspiring guidance, esteemed suggestions, timely helps and constant encouragement and co-operation helped for the completion of this study.

It is my felt desire to expressing profound gratitude to **Mr.M.Anand M.Sc, Vice Principal and Class Co-ordinator, Medical – Surgical Nursing** for his valuable guidance and thought provoking stimulation to present this study.

I extend my thanks to **Mrs. Hemalatha., M.Sc., (N), Lecturer, Pediatric Department** for valuable suggestions and guidance throughout the study.

I extend my deep thanks to all the school authorities for granting me permission to conducting study, School teachers to cooperated whole heartly with me in conducting the study.

I express my sincere thanks to **Dr. Murugan, M.B.B.S, D.C.H. Pediatrician**, for valuable suggestions and guidance in the formulation of tool.

Grateful acknowledgement is extended to **Mr. Vengatesan** Lecturer in statistics for his valuable help in statistical analysis of the study.

I render my thanks to all the **experts** who validated tool and provided constructive and valuable opinions.

I also extend my thanks to **Mrs. T.S.Sumithra Devi, M.A., M.Phil** Who edited the study.

I also accord my respect and gratitude to all the **faculties** of **Dharmarathnakara Dr. Mahalingam Institute of paramedical Science & Research** for their timely assistance, cooperation and support throughout the period.

I extend my sincere thanks to **Mr. Kumar, Librarian and Mrs. Dhanalakshmi, Asst. Librarian, DMIPSR** for helping me in completion of study.

My sincere thanks to all my **friends and beloved juniors for the constant help, ideas and for standing with me during the odds.** I thanks to **Sri Vijayalakshmi Computers** for making me successful in all the encounters and difficulties faced during the study.

I owe my heartfelt gratitude to my parents, brothers, sister-in-law, my husband, my mother-in-law, father-in-law and also my thanks to Mr. Jothi Kumar, Mrs. Indra, Mr. Manobharathi for their moral support throughout study.

Last but not the least I would like to extend my sincere thanks to all the members and colleagues who have directly and indirectly helped me in the successful completion of study.

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LIST OF ABBREVIATIONS USED

et al.	=	And others
DMIPSR	=	Dharamarathnakara Dr.Mahalingam Institute of Paramedical Sciences & Research
Fig	=	Figure
H_1	=	Research hypothesis
H_2	=	Research hypothesis
H_3	=	Research hypothesis
HOD	=	Head of the Department
n	=	Total number of samples
No.	=	Number
Prof	=	Professor
S.D	=	Standard deviation
=	=	Equal to
SIM	=	Self Instruction Module
LD	=	Learning Disability
WHO	=	World Health Organization
$\pm$	=	More than or less than

ABSTRACT

Today's children are tomorrow's citizens. They are in a continuous process of growth and development. Any alteration in its course lead to development disorders of learning disability plays a significant role as a silent handicap among children. It is estimated that 4-5% of students in school have learning disability. Learning Disability is "a study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected school at Appakudal, Erode district". As there are no specific test to identify children with learning disability, health professionals have to rely mainly on teacher's report for its diagnosis. Previous studies have proved that teacher's towards such children have great influence towards their recovery.

OBJECTIVES OF THE STUDY:

1. To assess the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.
2. To compare the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.
3. To compare the posttest knowledge of experimental and control group of teacher regarding learning disabilities.
4. To findout significant association between knowledge of experimental and control group of primary school teachers and selected demographic variables regarding learning disabilities.

METHODOLOGY:

The research design adopted for this study was quasi experimental design and research approach adopted for this was to evaluative the educative approach. The

sample size was 60 teachers. In this, 30 teachers were selected for experimental group and 30 for control group by purposive sampling method. Teachers were selected in selected schools at Erode District.

Data was collected by using structured questionnaire, this consists of two sections.

Section I – Demographic variables

Section II – Questionnaire regarding knowledge.

RESULT:

The finding of the experimental group of teachers pre test knowledge and mean score was 16.6 (41.50%) and level of knowledge was inadequate. In post test knowledge score was 33.3 (83.25%). Now the level of knowledge was adequate in experimental group. Similarly in the control group pretest knowledge mean score was 17.2 (43.00%) and post test knowledge mean score was 19.1 (47.75%). In the comparison of experimental group and control group. In the pretest there is no significance difference between the experimental and control group but after self instruction module it is observed significant difference between experimental and control group. Teachers gained knowledge above 41.75% more knowledge on learning disabilities after administration of self instruction module. This 41.75% of knowledge gain is the net benefit of this study which indicates the effectiveness of self instructional module learning disabilities in experimental group than control groups.

The student independent ‘t’ test and chi square shows there was significant association between post test knowledge score and selected demographic variables in experimental group like age and experience of teachers than control group.

CONCLUSION

The findings of the study was need of pediatric nurse to conduct training programme regarding learning disabilities among the primary school teachers. The study revealed theta the level of knowledge regarding learning disability was low among school teachers in control group. The concluded that need for providing knowledge on learning disability is an important strategy to utilize teachers as effective contributors towards child health services.

Key words:

Learning Disability, Knowledge, school teachers, disability children.

CHAPTER- I

INTRODUCTION

Guru Brahma, Guru Vishnu, Guru Devo Maheswarah

Guru Sakshath Para Brahma, Tasmai Sree Guruve Namaha

The Hindu philosophy places teacher on a pedestal – even above God and just after the parents. Children spend most part of their working hours in school with teachers who play an important role in moulding their future. A teacher is responsible to integrate all round development of a child. Like a gardener, they provide all suitable conditions for students best growth.

According to Mahatma Gandhi, “Education means an all round drawing out of the best in child and men – body, mind and spirit”. Only an efficient and an understanding teacher can identify the capacities, strength and weakness to innate in each student.

Jones Elizabeth Pryce states that children are at school for a large part of their vital time for the emotional and physical development. School provides a setting for the development of friendship, socialization and for the introduction and reinforcement of behavior. Change of behavior in the desired direction is termed as learning. Learning is a very complex brain function of understanding, recalling and utilization of this knowledge in the future. The capacity to learn varies from individual to individual even among children of the same age and intellectual ability.

Without proper knowledge and perception regarding this reality, all parents and teachers force the children to come out with first rank.

"The quality of children's life solely depends on the type of family environment, school and neighborhood" – Dr. R. Parthasarathy. Unhealthy social surrounding can put them into stress and can increase their vulnerability to develop emotional disorders.

The term "Learning Disability" came to use in the 1960's. Learning Disability is also termed as "Specific Academic Skill Disorder" or "Specific Learning Disability". National Joint Committee on Learning Disability defines Learning Disability as "A heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities.

According to National Institute of Health "Learning Disability is a disorder that affects people's ability to either interpret what they see and hear or to link information from different part of the brain. Such difficulties extend to school work and can impede learning to read, write or do math".

The 4th version of Diagnostic and Statistical Manual (DSM-IV) refers these disabilities as learning disorders rather than academic skills disorders and mentioned under the section called "disorders first diagnosed in infancy, childhood or adolescence.

According to UNESCO records (1998) in European countries, the percentage of students learning in special schools ranges between 2.5 and 4.5 and 10-15% of the

school age population is in special educational need, which includes defects of speech, major behavioral problems, and various forms of Learning Disabilities. 4.5% of students (2.8 million) in schools had been identified as having learning disabilities. Ethnic/racial breakdown of students with learning disability underscore the fact that it is a serious national problem and cannot be attributed to poverty, immigration or locality.

Identification of disorder prior to school age is difficult due to the instability of results obtained from formal testing procedures. Teachers are the first person to notice that the child is not learning as expected. They often exhibit some challenging behaviors also. There is no magic bullet to cure Learning Disability. Shaw and Mac Guire stated that, for students with Learning Disability skills such as “Planning, Monitoring, Regulating and Scheduling” are difficult. These students require continuous help to adapt to learning situations. Selvin in an analysis of challenging behaviors among people with Learning Disability suggest that, these children are a major challenge for teachers and members of caring families. The successes of these children are determined by the response of the school personnel to the need of these children.

The previous studies indicate the need for a multidisciplinary approach and empowerment for the care of the learning disabled children. Maximum improvement can be achieved only by the combined effort of Medical and allied professionals, parents and teachers. These beliefs permeated and guided the role of teachers from assessment to evaluation. According to National Centre for Learning Disorder, “Teachers are the essential link between children with learning disorder and the interventions that help them. There is no student with learning disorder who cannot

learn, if a teacher has received appropriate training and is willing to spend time, using his/her expertise to reach and teach that child". It supports the value of team work in all aspects for caring people with Learning Disability.

Trained teachers who have positive attitude and practical knowledge concerning individual needs (physical, emotional and intellectual) and problems can prevent and manage emotional and psychosocial problems of young children. Abdal Haqq stated that 'Teachers need to be trained to identify students who need intervention, to handle problems in class room, to locate sources of help for students, to take part in the collaborative process and to view themselves as part of a team effort to address the academic, social and healthy development of students.

It is seen that even with increased resources child and adolescent mental health services alone are unlikely to be able to meet the needs of children with behavioral and psychological problems. Hence, the schools form logical point of intervention for child mental health professionals. As reported by UNESCO (1998), there are almost 43 million teachers out of which 23.9 million in primary school level. The size alone of the teacher population is of public health significance.

In a country like India where resources are very limited, better and efficient utilization of the available resource is the only solution for the problem. Realization of this reality paved the way for the 9^{th} conference of Central Council of Health and Central Family Welfare Council to declare that "The teachers should be trained for observing and screening students for defects and deviations from normal health to maintain effective surveillance and for providing supportive health education for the prevention of health problems by developing desirable health habits.

NEED FOR THE STUDY

"It is our responsibility to ensure bright future for today's children so that tomorrow's society will benefit"

- Dan Offord

Children are the Nation's supremely important asset. They determine the future of the nation. Any input into the health of the today's children will be an investment since they are the adults of next decade. According to WHO "Children are a priceless resource and that any nation which neglect them would do so at its peril". WHO day spot light the basic truth that we must all safeguard the healthy minds and bodies of the world's children, as a key factor in attaining Health for all by 2010 AD.

Deivasigamani reported a prevalence rate of 20-33% of psychiatric disorders in school children in Indian stetting. Among them learning Disorder constitutes 3-7%.

According to Pieron, "A child at birth is a candidate for humanity; it cannot become human in isolation". A child is born as a raw material with all potentials for the psychosocial development. The development is based on the healthy learning process especially during childhood. A child's physical and mental health is important for his/her positive development beginning from birth. Although learning stars from birth, formal learning takes place in school under the guidance of teachers. It is generally observed that 2/3 rd of child's lifetime is spent in school. Therefore, teacher's role in crating efficient citizen is significant. Effectiveness and competence of a teacher are influenced by certain non - academic factors, which were not taken into account like perception, orientation and attitude of the learner and teacher. The

experience of the school hours markedly influence the development of the total individual – including the health, values, attitudes, behaviors and confidence. According to Parthasarathy “Next to the family, school related experiences affect the social, emotional and intellectual development of the child”. However, some disabilities do arise in the learning process, which in turn causes secondary emotional, social and family problems.

Philip J, identified a sheer force of number of children with various developmental disorders. According to him, most development disorders like learning disabilities are “silent handicap” and go unidentified. Such children may not progress in life unless timely remedial help is given.

Coordinated campaign for Learning Disability defines it as “A neurological disorder in which a person’s brain works or is structured differently”.

Wagner et.al. would purport that identification of Learning Disability begins when parents or teachers suspect that a student is having problem coping with everyday school tasks because it is always an educational one. The teacher’s rapport with learning -disabled child is proved vital in helping the child succeed. According to Learning Disabilities Services, students can greatly benefit when the teacher takes a little time and thought to accommodate these needs. These students may need accommodation in some classroom activities, assignments and exams. Making the child aware of a disability is a great service to the child. Unless such children are identified and properly treated, they may develop secondary emotional, social and family problems.

It is in this context, the importance of a teacher become vital in safeguarding and promoting the mental health of children and early identification of deviations from normal. The school is one of the most organized and powerful systems in the society which presents opportunity to work through it and to influence the health and wellbeing of those who come in contact with it. This is especially true in Indian setting where there is considerable shortage in mental health facilities for children.

The major constraint faced by Learning Disabled appears to be the lack of proper knowledge and positive attitude exhibited by professionals within the field of education. Many teachers are having a tendency to label these children as being stupid or lazy. Such ill treatment can lead to the development of secondary emotional problem, behavioral problems and reduction is self-esteem and high suicidal rates. Huntington and Bender concluded that adolescents with learning disabilities experience higher levels of trait anxiety and have higher prevalence of somatic complaints. Some studies from United Kingdom also found that the learning disabled children were more shy, seeking help and were more victims of bullying.

The growth in the number of children with disabilities exceeds the growth in both the resident population and the school enrollment. But, according to Prasad M, the Mental Health Services available to provide psychological care to emotionally disabled children in India is very meager. WHO insisted on the fact that, mental health program should utilize trained teaches to improve the psychosocial aspect of the school children. A mental Health input in the School Health Program is likely to play a major role in the amelioration of social, behavioral and learning problems in school children. Research studies supported the use of teacher ratings for initial screening and identification of students at high risk for social-behavioral problems. As

a method of management teacher must asses their ability, interest, creativity and commitment to the specific field areas of the human endeavor. This process utilizes the teacher's knowledge of the child through observations of student behaviors within the learning environment. While dealing with underachievers, this knowledge will help in differentiating children, who are lazy and will not do the work or teach disabled who cannot do the work.

The researcher during school health programs noticed that all the students were forced to follow the same syllabus irrespective of their difference in the capacity to learn. Students who were weak in their scholastic behind their poor performance. Without knowing that poor performance can be a brain disorder, teachers were ill-treating them, which in turn further reduced their confidence. Similarly no attempt was made to identify and faster their capabilities in other fields. Hence, researcher felt that it is important to understand the knowledge and attitude of teachers towards the child's disabilities. Moreover, related studies were found to be very few in Indian setting. This observation inspired the researcher to select this topic for the study.

STATEMENT OF THE PROBLEM:

"**A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE REGARDING LEARNING DISABILITIES OF**

PRIMARY SCHOOL CHILDREN AMONG PRIMARY SCHOOL TEACHERS OF SELECTED SCHOOLS AT APPAKUDAL, ERODE DISTRICT".

OBJECTIVES OF THE STUDY:

5. To assess the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.
6. To compare the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.
7. To compare the posttest knowledge of experimental and control group of teacher regarding learning disabilities.
8. To findout significant association between knowledge of experimental and control group of primary school teachers and selected demographic variables regarding learning disabilities.

HYPOTHESIS:

H_1- There is significant difference between the pretest and posttest knowledge of experimental group.

H_2- There is significant relationship between the pretest and posttest knowledge of control group.

H_3- There is significant difference between the posttest knowledge of experimental group and control group of primary school teachers.

H_4- There is significant association between the knowledge of school teachers regarding learning Disabilities and selected demographic variables such as age, gender, educational qualification, years of experience, marital status,

child psychology, in-service education and experience in teaching children with learning disabilities.

ASSUMPTION:

1. School teachers possess very limited knowledge on learning disability among children.

2. Self- instructional module will create awareness regarding learning disabilities among primary school teachers.

OPERATIONAL DEFINITION:

Evaluate : Form an idea of the amount, numbers (or) value of assess and the study will assist in evaluating the impact of recent changes, a system for evaluating now well the firm is performing.

Teacher : A person who teaches especially in a school.

Effectiveness : Successful in producing a desired (or) intended result.

Learning disability : Learning Disability a disorder that affects people ability to interpret what they see and hear which leads to difficulties that extend to school work, and can Impede learning to ready, write (or) do math.

Selected school : Private schools having primary section [1-5 classes], which

follow syllabus adaptable for normal children.

LIMITATIONS

- The study is limited to 6 weeks period only.
- The study is not generalized since it includes only the primary school teachers (1 -5th standard)
- Teaching of primary school teachers at Erode District only.

CHAPTER II

REVIEW OF LITERATURE

Review of literature is an integral component of any study. It provides an insight into the various aspects of the problem under study. In conducting research, the literature review facilitates selecting a problem and purpose, developing a conceptual framework and formulating a research plan.

Literature review is a key step in the research process. **Polit and Hungler** defined Review of literature as “a broad, comprehensive, in-depth, systematic and critical review of scholarly publications, unpublished scholarly printed materials, audio visual material and personal communication.

According to **Basavanthappa**, “It refers to an extensive, exhaustive, systematic examination of publications relevant to the research project”.

The investigation did an extensive review of the research and non - research literature related to the present study and made on attempt to contribute to a deep insight into the problem area and methodology. In order to accomplish the goal in the present study, an attempt has been made to review and discuss the literature under following sub headings.

a) **Studies related to Learning Disability**

b) **Studies related to knowledge of teachers related to Learning Disorders**

STUDIES RELATED TO LEARNING DISABILITY

ICMR reported that among 1835 children who were attending Child Guidance Clinic on whose study was conducted, 37% had neurotic disorder, 12% had Mental retardation, and 7% had development disorders 14% had Epilepsy and 25% Psychosis.

US Department of education states, in a survey among children enrolled in Public schools identified that approximately 5% of them were affected by learning disability of this reading disability constitute 3-15%. Over 40% of the 4^{th} grade students perform below basic levels on National Assessment of Educational Progress. The study concluded that for about ½ of American children. Learning to read is a much more formidable challenge and for at least 20-30% of these youngsters, reading is one of the most difficult tasks that they will have to master throughout their life.

Executive Summary of National Research Council in a study shows that, Learning Disability do not fall evenly across racial and ethnic group-that is in 2001, 1% of white children and 2.6% of non Hispanic black children were receiving Learning Disability related to specific education services. It is also estimated that Dyslexia affect at least 2% of general population and about 70% of those affected are males. But, 60% of them remained undiagnosed.

Halarcon et al (2008) conducted a study among twins in USA showed that, 58% of monozygotic co twins and 37% of dizygotic co twins were also having dyscalculia and that concordance rate was 0.73 and 0.56 respectively. Heritability estimates decreased as a function of age for word recognition (0.64 vs. 0.68) but increased for spelling (0.52 vs. 0.68).

Harlaar N (2007), Conducted a cohort study from 1994-2000, among twins born in England and Wales, Sample size was3909 and their mean age was 7.07±0.22 years. Data was collected by telephone using a tool, The Test of Word Reading Efficiency. In this study, both normal variations on word recognition and impaired word recognition abilities were found heritable (h^2=0.65-0.67, h^2g=0.37-0.72). The study also shows evidence of sex difference, with geriatric influence being more important in boys than girls are.

Individuals with Disabilities Education Act (IDEA) served 2817148 students (ages 6-21) with specific learning disabilities in 1998-99 compared to 2062076 students in 1989-90. This represents a 36.6% increase in cases. The analysis of data found that among learning disabled, school dropouts were 44.9% in women and 57.6% in males.

Margot P et al (2006) conducted a longitudinal study with case and control among 300 samples of 11-12 years age children in urban and rural areas of Victoria, Australia. The Child Assessment Schedule Revised is used to assess the behavior and learning disability is assessed with the spelling and arithmetic test from wide range achievement test revised and reading with ACER word knowledge test. The research findings are that spelling difficulties are more common among them than others (32.5% versus 9% on arithmetic and 42% versus 13.5% on spelling) Children with arithmetic difficulties have some what higher rates of behavior disorders than children with spelling disorders(65% versus 48%). Teachers rating indicate that they were performing significantly worse in academic, attitudinal and maturational. Analysis indicated that the Sp+ArD had been the poorest performers in the early school years.

Nehru R, Garg A, (2004) Delhi, conducted a cohort study on two brothers with learning disability aged 17 & 14 years studying in class 9 and 8 receptively. They were evaluated across a series of neuro psychological and cognitive linguistic task. Both siblings had good speed and accuracy in reading and pronunciation was good. However, reading comprehension was grossly impaired. The elder had a spelling disorder on writing to dictation but younger didn't.

Ritter (2002) conducted a study in Hyderabad and estimated the problem behaviors of 51 adolescent girls with learning disability using Child Behavior Checklist and identified elevated problem behaviors and poor social competence in learning disabled group compared to adolescents without learning disability.

Shay witch (2001) conducted the study in England and said that followed the development of 414 Connecticut children and using a cut off 1.5 SE below expectation as indicative of specific reading difficulties, reported prevalence rate of 5.6% in 6 year olds, 7% in 8 year olds and 5.4% in 10 year olds. He also identified a distribution of between 1:3 and 1:5 boys to every girl affected.

Williams, Mc Gee (2001) conducted a study in India and stated that a cohort of 950 children from birth to childhood. Assessments conducted at the ages of 7,9 and 15 years showed that both reading difficulties and antisocial behaviors showed continuities overtime. However, while the dimensional approach revealed no significant association between early reading and late delinquency. At least for boys, early reading disability predicted future conduct disorder at 15 years. For girls the association between reading problems and anxiety is significant suggesting a difficult outcome for reading problems between the sexes.

STUDIES RELATED TO KNOWLEDGE OF TEACHERS RELATED TO LEARNING DISORDERS

Colin HJ, Cynthia W (2008) conducted a study in England in which teachers were provided with a checklist date on a sample of 320 boys and 118 girls who were previously referred to school psychological services and a further 183 boys and 39 girls who had not been referred. Subjects were aged 5-11 years, there was a high level of agreement between referred and non - student status and subsequent classification using the child behavioral checklist.

Meltzer I et al (2006) conducted study in a Switzerland among the 663 students and their 57 teachers to detect teacher's perceptions of the student's strategy use and performance in nine domains. Findings indicated that the students with learning disabilities considered themselves appropriately strategic and competent in the five domains of reading, writing, spelling, math and organization. These students also rated their academic performance and organization as average to above average in seven of nine domains. The self - rating of students with learning disabilities were still significantly lower than the self - rating of average achievers in virtually all domains. The findings also revealed a sharp discrepancy between self-assessment of the students with learning disability and their teachers. Teachers rated the students with learning disabilities as weak in their strategy use and below average in their performance in all nine domains and organizational domains. These results added to the increasing body of literatures indicating the efficiency of teachers in the accurate identification of cases and learning disabled children's perception as capable and effective.

National Institute of Child Health and Human Development (2005) states in a longitudinal interventional study, since, 1985 over 12 years on 34501 children in 11 states in USA and Canada to identify early interventional and remediation measures for children with learning problem. This study explained the significance of teachers in the management of such children.

Nikapota A (2004) in a study conducted in Thailand and explored the fact that teachers saw themselves as role models and used a combination of rewards and punishments within clearly defined rules to manage children's behavior. Supervision (11/25) was considered most important in promoting good behavior, while attending out of school clubs had a greater role in preventing naughtiness (16/25). They considered their own upbringing (23/25) and teacher experience (20/25) as important influence on their attitude towards children, where few mentioned their training (12/25) or social environment in which they worked (4/25) as common barrier in managing children with learning disability 17/25 reported lack of support from parents and 11/25 poor parenting as a cause for problems in children.

Soman SK (2004) studied the knowledge of teachers regarding the behavioral problems of children. The sample consisted of 45 teachers aged between 25-51 years, from seven schools in Hyderabad, India. Findings indicate that poor scholastic performance, relationship problems, conduct problems and psychosomatic problems were perceived by subject as major behavioral problems. Information regarding treatment facilities was inadequate. This shows that teachers tend to use harmful methods to deal with children's behavioral problems such as minor punishments, moral education and threats of punishments.

Taylor HG et al. **(2002)** conducted study in India stated that on efficiency of kinder garden teacher judgment in identifying early learning problems. To identify early learning problems, kinder garden teachers in a sub urban school rated student progress towards six academic objectives as satisfactory or unsatisfactory. 20% of the district's 303 kinder garden children received unsatisfactory ratings in atleast one area. 38 of these children (identified group). Results of testing conducted revealed poor academic achievement in identified children than in non - identified children. Children from the identified group also performed more poorly than children from non- identified group on tests of phonological processing and working memory / executive functioning and were rated by teachers as having more behaviour and attention problems and lower social competence. Follow up of the cases to the first grade documented continued learning problems in the identified group. These findings support the use of teacher judgment in the early detection of learning problems.

Tur-Kaspa H, Bryan T (1990) conducted a study in UK and stated that on examine whether teacher's judgment of student's social competence and social adjustment differentiated students with learning disabilities. (n=30; boys=19 girls=11) from low achieving students (LA) (n=29 boys=17 girls=12) and average achieving (AA) students (n=33 boys=18 girls=15) at two grade levels; third/fourth (mean age=9.97 SD=1.09) and seventh/eighth (mean age=13.69 SD=.65). Teachers completed the Walker McConnell scale of social competence and school adjustment for each student. They rated students with Learning Disability and LA as having significantly lower social competence and social adjustment than their AA peers. The result supported the use of teacher ratings for initial screening and identification of students at high risk for social and behavioral problem.

Vellutino et al (1990) conducted a study to assess the progress of children with reading disability asked teachers of in 1407 children from 17 schools in Albany area of New York, simply to rate their reading skills in the middle of 1st grade. The poor readers were then assigned at random into tutored or non-tutored groups. The tutored children received 30 minutes of individualized help daily, according to their needs while the untutored children served as controls. 67% of tutored gained reading scores within the normal range after only one semester. Moreover, untutored children maintained their status.

CONCEPTUAL FRAME WORK

A conceptual framework is the processor of a theory. It provides broad perspectives for nursing practice, research and education. Conceptual framework plays several inter - related roles in the progress of science. In nursing, conceptual model identifies concepts and describe their relationships to the phenomena of central concern to the discipline. It helps to conceptualize and plan care. Their overall purpose is to make scientific findings meaningful and generalizable.

Polit and Hungler state, “A conceptual framework is an interrelated concept on abstractions that are assembled together in some rational scheme by their virtue of their relevance to a common theme. It is a device that helps to stimulate research and the extension of knowledge by providing both direction and impetus.

The conceptual model used for the present study is Sister Callista Roy’s Adaptation theory (Roy and Obloy 1979; Roy 1989). The Roy’s adaptation model focuses on the response to the adaptive system to a constantly changing environment. Adaptation is the central feature and a core concept of the model. Problems in adaptation arise when the adaptive system is unable to cope with or respond to constantly changing stimuli from the internal and external environments in a manner that maintains the integrity of the system.

The person is identified as a bio psychosocial being and as an adaptive system. It is defined as ‘a set of parts connected to function as a whole for some purpose and it does so by virtue of the interdependence of its parts’. Adaptive means that ‘human system has the capacity to adjust effectively to changes in the environment and in turn

affect the environment' (Andrews and Roy 1991). In the present study system is the teacher who has to adapt effectively to the problems and difficulties of children with learning disabilities to manage them properly.

The adaptive system has two major internal control processes called the regulator and cognator subsystems. The regulator subsystem responds automatically through neural, chemical and endocrine coping processes. The cognator subsystem responds to inputs from internal stimuli that involve psychological, social, physical, and physiological factors. Regulator cognator activity of the teachers towards children with learning disability is influenced by his demographic factors and knowledge of the teachers towards children with learning disabilities.

Regulator and cognator activity is manifested through coping behaviours in 4 adaptive or response modes.

1. **Physiological mode**: This is associated with the way the person responds as a physical being to stimuli from environment. Behaviour in this mode is the manifestation of the physiological activities of all the cells, tissues, organs and systems comprising the human body. In the present study physiological mode, include features of increased stress.

2. **Self - conceptual mode**: Self-conceptual mode encompasses perception of the physical self and the personal self. If focuses on the need for psychic integrity that is 'the need to know who one is, so that one can be or exist with a sense of unity'. In this study, confidence in guiding learning disabled children and enhanced job satisfaction are included in self - conceptual mode.

3. **Role function mode**: This emphasizes the need for social integrity, which is needed to know who one is in relation to others so that one can act'. Roles are classified as primacy, secondary and tertiary. The primary role determines the majority of behaviours engaged in by the person during a particular period of life. Secondary roles are those that a person assumes to complete the task associated with a developmental stage and primary role. Territory roles are related primarily to secondary roles and represent ways in which individuals meet the role associated obligations. Role function modes of coping behaviours for the present study include arranging school health programmes, counselling for parents and students, referral Services.

4. **Interdependence role**: This also emphasizes the need for social integrity. Interdependence is a 'way of maintaining integrity that involves the willingness and ability to love and to accept love and respect given by others'. Here, willingness of the teachers is to accept the learning-disabled children as such and willingness to interact with their parents were with coping behaviours.

Environment is defined as all conditions, circumstances and influences that surround and affect the development and behaviour of the person. Environment is viewed as constantly changing and has internal and external components. The internal and external environments in the form of stimuli are the inputs into the adaptive system.

The person and environment are in constant interaction with each other. The responds to environmental stimuli are adaptive or ineffective.

Teachers are in constant contact with the changing environment of handling different types of students. If not able to cope effectively, they develop problem in handling children with disabilities.

The nurse determines what demands are causing problems for teachers in identifying and managing children with learning disabilities and assess how well they are adapting to them. Nursing is directed at helping those who had ineffective responds towards such children.

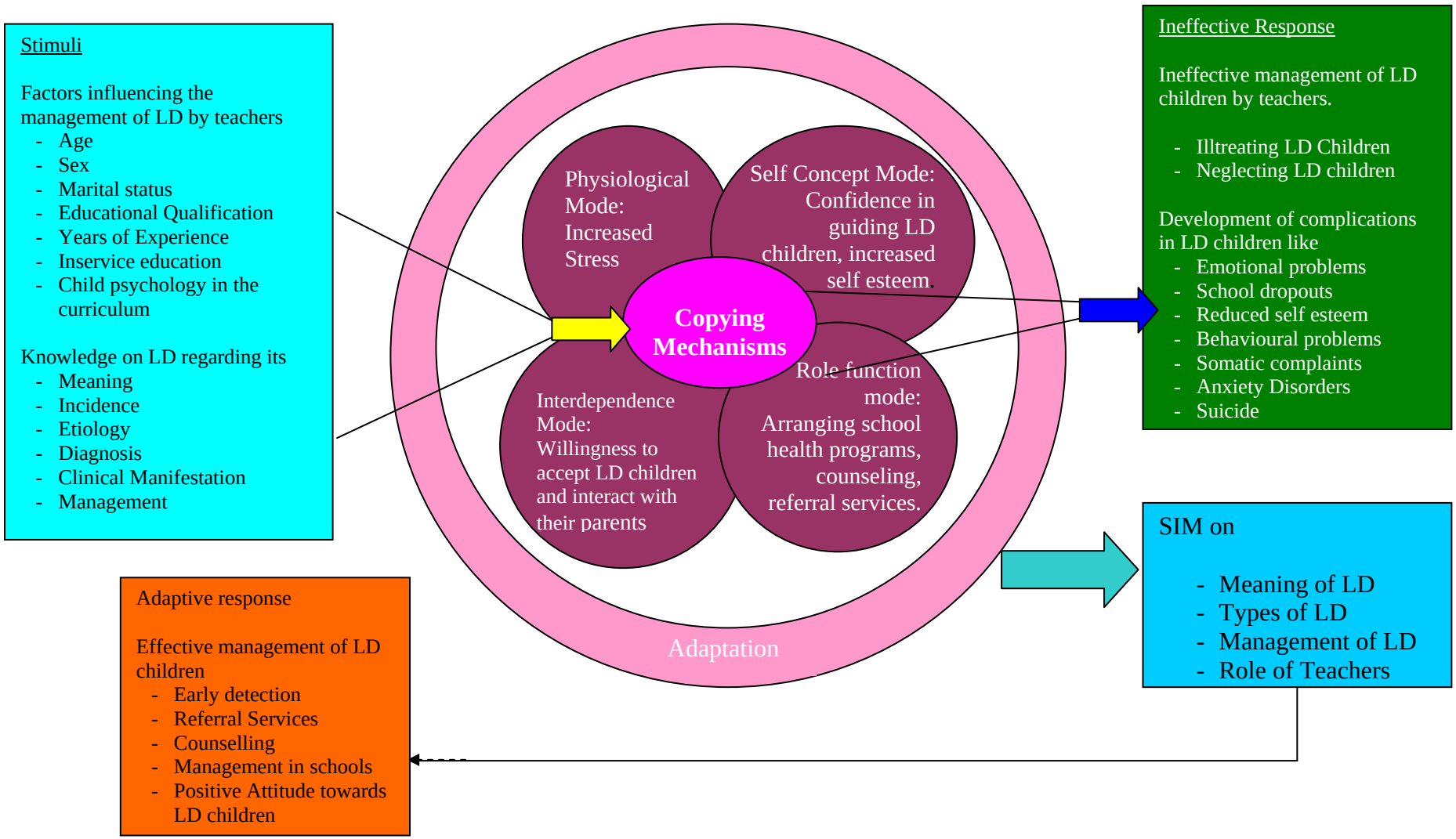


Fig 1: Conceptual framework based on Roy's adaptation theory

CHAPTER III

METHODOLOGY

Research methodology is a way to solve the research problems systematically. It involves a carries of procedures in which researcher starts from initial identification of the problems to its conclusion. The chapter deals with the description of methodology and different steps, which were undertaken for gathering and organizing data for the investigator including.

- Research approach
- Research design
- Study setting and site
- Target population
- Sample and sampling technique
- Development and description of tool
- Pilot study
- Data collection procedure
- Plan for data analysis
- Development of self-instructional module.

Research approach:

Research approach tells the researcher from whom the data was to be collected, when the data is to be collected and how to analyze them. It also suggests possible conclusion and helps researcher in answering specific research questions in the most accurate and efficient way as possible.

The research approach used for the study is quasi-experimental in nature. According to Polit and Hungler, the purpose of quasi-experimental study is to explore aspects of a situation. The researcher planned to describe the knowledge of school teachers regarding learning disabilities.

Research Design:

The research design provided an overall (or) blueprints to carryout the study. Quasi - experimental research design was used for assessing effectiveness of SIM for primary school teachers (1-5 std) regarding learning disabilities.

SCHEMATIC REPRESENTATION OF THE RESEARCH DESIGN:

A quasi - experimental design, which include manipulation, control and no randomization.

Grove	Pre-Assessment	International	Post Assessment
Experimental	O_1	X	O_2
Control	O_1	-	O_2

Key:

O_1 = Pre-Assessment of knowledge of primary school teachers.

O_2 = Post Assessment of knowledge of primary school teachers.

X - Self Instructional module

VARIABLE:

The variables included in this study are dependent variables, extraneous variables and independent variable.

Independent variables:

Self - instructional module on learning disabilities of primary school teachers.

Dependent variable:

According to Polit and Hungler, in these study dependent variables refers to the knowledge of primary school teachers regarding learning disabilities.

Extraneous Variable:

Extraneous variables in this study are age, sex, educational qualifications, and years of experience, marital status and child psychology in the curriculum. In service education and experience in teaching and learning disabled children.

SITE & SETTINGS:

SITE → Primary school teachers at erode disctrict.

Setting → Selected primary schools at Erode.

1. Kavitha Nursery and Primary School, Sakthinagar, Erode District
2. Sri Vivekananda Vidhya Bhavan Matriculation Higher Secondary School, Sakthinagar, Erode District.
3. E.K.M. Abdul Gani Matharasa Islamia Primary School, Erode District.

POPULATION:

According to Polit and Hungler, “Population refers to the entire aggregation of cases that meets designed criteria”. The requirement of defining a population for a research project arises from the need to specify the group to which the study can be performed. The population for the present study is teachers of primary schools at Erode.

SAMPLE AND SAMPLING TECHNIQUE:

Sample:

Selected Primary school teachers of who met the selection criteria at Erode district.

Sampling Techniques:

Purposive sampling technique was used in the data collection of samples.

Sample size:

The sample is used for the study 60 (sixty) teachers out of that 30 for experimental group and 30 mothers for control group.

CRITERIA FOR SELECTION OF SAMPLE:

Inclusion criteria:

- Teachers who are teaching in standard 1 to 5.
- Teachers of selected private schools at Erode.
- Teachers who are willing to participate in the study.

Exclusion criteria:

- Teachers who are absent on the day.
- Teachers undergone in service education on learning disabilities.

SCHEMATIC REPRESENTATION OF THE STUDY DESIGN

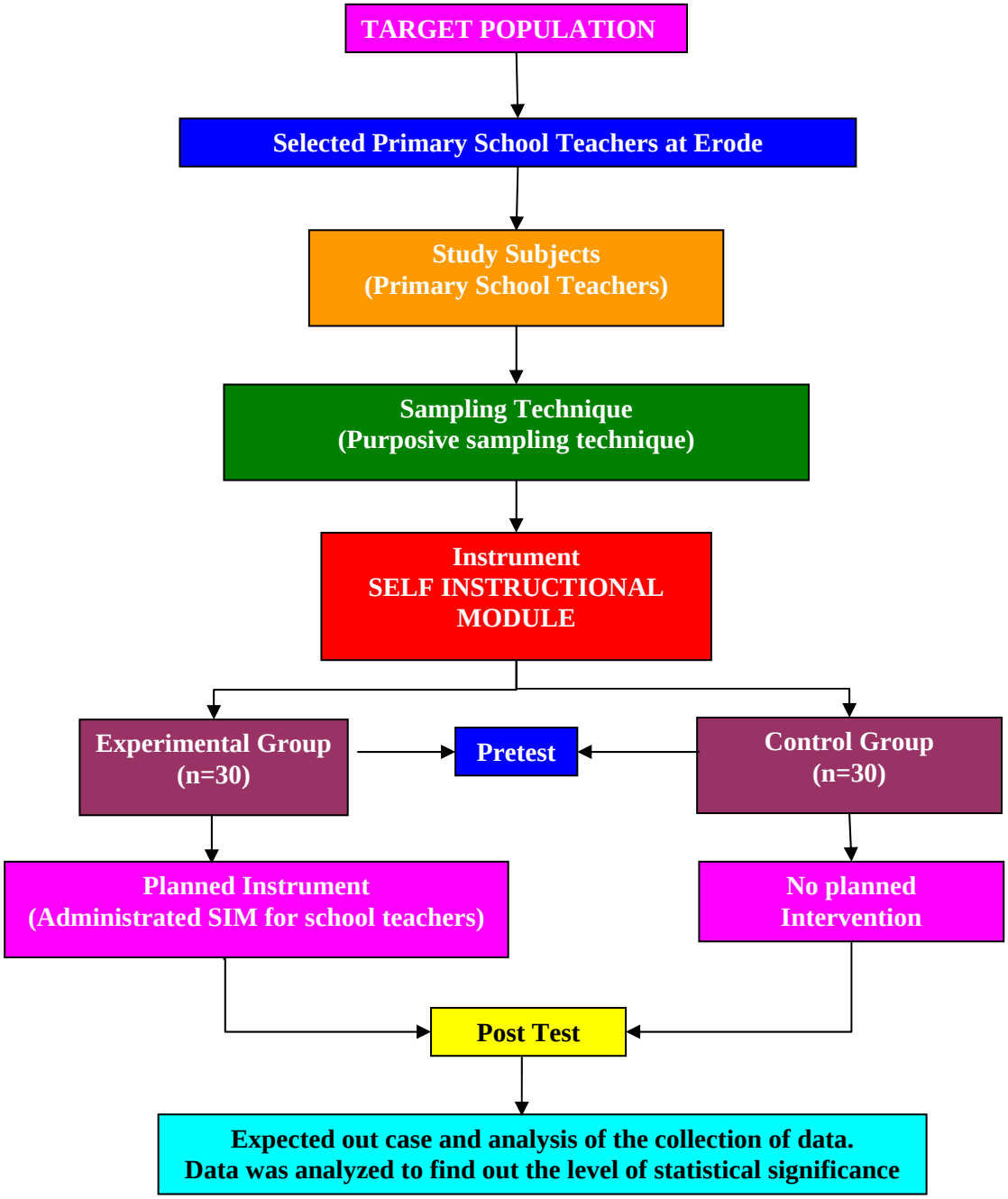


Fig 2: Schematic representation of the study design

SELECTION AND DEVELOPMENT OF INSTRUMENT:

Treece and Treece emphasized that the instrument selected in research should be as far as possible between the vehicles that would the best to obtain data for drawing conclusions pertinent to the study.

Selection of the instrument:

Structured questionnaire for knowledge assessment was used as the research tool because topic is relatively a new one for the teachers and is considered to be the most appropriate instrument to elicit responses from illness subjects.

Development of the tool:

The following steps were carried out in formulating the tool.

1. Related literatures were reviewed.
2. Blue print was prepared.
3. Guidance and consultation of the subject experts were taken and alterations made accordingly.
4. Consultation with statistician was done for the preparation of the plan for statistical data analysis.
5. Reliability was checked by doing Pilot study.

Review of literature includes related to review of Journals, articles, books published and unpublished research studies. They were reviewed and used for the development of the tool.

The blue print was prepared to construct the tool, which consists of 8 questions in socio demographic variables, 40 in knowledge questionnaire.

Descriptive of the tool:

The tool was organized into 2 sections. Section I & Section II.

Section I- Demographic data consists of 8 items seeking information about age, gender, marital status, educational qualification, years of experience, child psychology in the curriculum, in service education and experience in teaching children with learning disability.

Section II – Consists of 40 questions related to meaning, incidences, causes clinical features, diagnosis and management of a child with learning disability. Each question has one correct answer that carries one mark and wrong answer carries 0 mark.

VALIDITY OF THE INSTRUMENT:

Validity refers to a complete concept, which broadly concerns the roundness of the study's evidence that is whether the findings are congruent, convincing and well grounded. Content validity refers to the universe of contents (or) the domains of given construct. The universe of content provides the framework and basis of formulating the items.

Validity of the tool was assessed by obtaining opinion from 4 experts in this topic that includes 3 nurse educators and 1 pediatrician.

The experts suggested simplifying the Language, to reorganize some items, to include multiple right answers to avoid options like frequent all of the above and to include proportionately more number of questions in Identification and management aspects. Appropriate modifications and corrections were made and tool was finalized.

Final tool consisted of (A)

Demographic variables – 8

Knowledge questions - 40

Criteria measures for knowledge score ( ).

Adequate knowledge	=	76% - 100%
Moderately adequate Knowledge	=	51%-75%
Inadequate knowledge	=	< 50%

RELIABILITY OF THE TOOL:

Reliability of a research instrument is defined as the extent to which the instrument yields the same results on repeated measures.

The reliability of the tool in measuring the knowledge of teachers regarding learning disability among children is estimated by following split half method and spearman's Brown prophecy formula. It is reliable.

DEVELOPMENT OF THE SELF INSTRUCTIONAL MODULE:

The draft of the SIM was developed with the guidance of the pediatric nursing experts based on the objectives, review of literature and to the level of knowledge of

teachers and content of the self - instructional module was modified with necessary correction.

The self - instructional module was organized into various headings.

- Introduction related learning disabilities
- Definition of LD
- Classification
- Epidemiology and etiology
- Clinical manifestation
- Diagnostic evaluation
- Management
- Prevention of LD
- Teachers role in managing with children learning disabilities.

PILOT STUDY:

The Pilot study was conducted on 01/11/09 to 07/11/09 in Jesus Nursery and Primary school, at Thiruvannamalai. Sample size is six of primary school teachers. They are 3 teachers representing the experimental group and 3 teachers representing the control group. Prior to the study formal permission was obtained from pediatric nursing specialty guide and the principal of DMIPSR. The research design is quasi-experimental design. Sample selection was purposive sampling technique.

Pretest knowledge was checked after establishing a good rapport with the teachers SIM was given.

The posttest assessment was carried out on the eighth day after SIM by using the same questionnaire.

The Pilot study findings revealed them that there is significant increase in the knowledge of primary school teachers after giving self - instructional module, Polit study shows there is feasibility of the questionnaires.

DATA COLLECTION PROCEDURE:

1. A prior written permission was obtained from the Headmistress of all 3 schools selected schools for study.
2. The feasibility of conducting the research study was ensured.
3. Data collection was started from 11/11/09 to 30/11/09.
4. The investigator has established good rapport with the teachers who had participated in the study at selected schools at Erode.
5. The information pertaining to demographic data was collected.
6. Tool was distributed to teachers during their lunch break to avoid disturbance in their routine classes.
7. Assessed the knowledge of primary school teachers pretest score was assessed.
8. SELF INSTRUCTIONAL MODULE was administered after the pretest to all the teachers of the experimental group.
9. All the teachers took an active participation in the program.
10. The posttest knowledge was assessed after 7 days of administering self - instructional module to the teachers of experimental group.
11. At the end of successful data collection, researcher conveyed thanks to the headmistress and teachers for winding up the study.

PLAN FOR STATISTICAL ANALYSIS:

Data was collected and checked with teachers' knowledge in selected primary schools at Erode. The collected data was summarized and tabulated by utilizing descriptive statistics which includes mean percentage, standard deviation and inferential statistics include student 't' test, independent 't' test chi-square test etc.

CHAPTER IV

ANALYSIS AND INTERPRETATION

Analysis is the process of categorizing, organizing, manipulating and summarizing the data to obtain answers to research questions. The purpose of analysis is to reduce data to intelligible and interpretable from which the relations of research problems can be studied and tested.

STATISTICAL ANALYSIS:

The chapter deals with the systematic analysis of data and interpretation. The collected information was organized, tabulated, analyzed and interpreted by using descriptive and inferential statistics. The finding were organized and presented in two parts with tables and figures. The details of each section are presented below to correlate with the objectives.

OBJECTIVES OF THE STUDY:

1. To assess the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.
2. To compare the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.
3. To compare the posttest knowledge of experimental and control group of teachers regarding learning disabilities.
4. To findout significant association between knowledge of experimental and control group of primary school teachers and selected demographic variables regarding learning disabilities.

DESCRIPTION OF DATA ANALYSIS:

The analysis of the data is organized and presented under the following broad headings,

Section I: Description of study subjects by socio-demographic characteristics.

Section II: Assessment of pretest and posttest knowledge of experimental and control group of primary school teachers regarding learning disabilities.

Section III: Comparison of pretest and posttest knowledge of experimental and control group of teachers regarding learning disabilities

Section IV: To compare the posttest knowledge of experimental and control group of teachers regarding learning disabilities

Section V: Find out significant association between knowledge of experimental control group of teachers and selected demographic variable regarding learning disabilities.

HYPOTHESIS:

H_1- There is significant difference between the pretest and posttest knowledge of experimental group.

H_2- There is significant relationship between the pretest and posttest knowledge of control group.

H_3- There is significant difference between the posttest knowledge of experimental group and control group of primary school teachers.

H_4- There is significant association between the knowledge of school teachers regarding learning disabilities and selected demographic variables such as age, gender, educational qualification, years of experience, marital status, child psychology, in-service education, experience in teaching children with learning disabilities.

SECTION- I

DESCRIPTION OF STUDY SUBJECTS BY SOCIO-DEMOGRAPHIC CHARACTERISTICS

Table 1: DEMOGRAPHIC PROFILE

Demographic variables		group				Total	significance
		Experiment		Control			
		n	%	n	%		
Age	20-25 yrs	5	16.7%	9	30.0%	14	χ^2=3.70P=0.27
	26-31 yrs	10	33.3%	13	43.3%	23	
	32-37 yrs	10	33.3%	5	16.7%	15	
	>40 yrs	5	16.7%	3	10.0%	8	
Gender	Male	10	33.3%	4	13.3%	14	χ^2=3.35P=0.07
	Female	20	66.7%	26	86.7%	46	
Educational Qualification	Teacher training	24	80.0%	18	60.0%	42	χ^2=3.11P=0.21
	B.Ed	5	16.7%	11	36.7%	16	
	M.Ed	1	3.3%	1	3.3%	2	
Years of Experience	1-5 yrs	7	23.3%	15	50.0%	22	χ^2=5.30P=0.07
	5-10 yrs	14	46.7%	7	23.3%	21	
	>10 yrs	9	30.0%	8	26.7%	17	
Marital Status	Married	23	76.7%	20	66.7%	43	χ^2=0.74P=0.39
	Unmarried	7	23.3%	10	33.3%	17	
Child Psychology in Curriculum	Yes	21	70.0%	16	53.3%	37	χ^2=1.76P=0.18
	No	9	30.0%	14	46.7%	23	
Attended in service education	Yes	19	63.3%	12	40.0%	31	χ^2=3.28P=0.07
	No	11	36.7%	18	60.0%	29	
Experience in Teaching children with learning disability	Yes	14	46.7%	19	63.3%	33	χ^2=1.68P=0.19
	No	16	53.3%	11	36.7%	27	

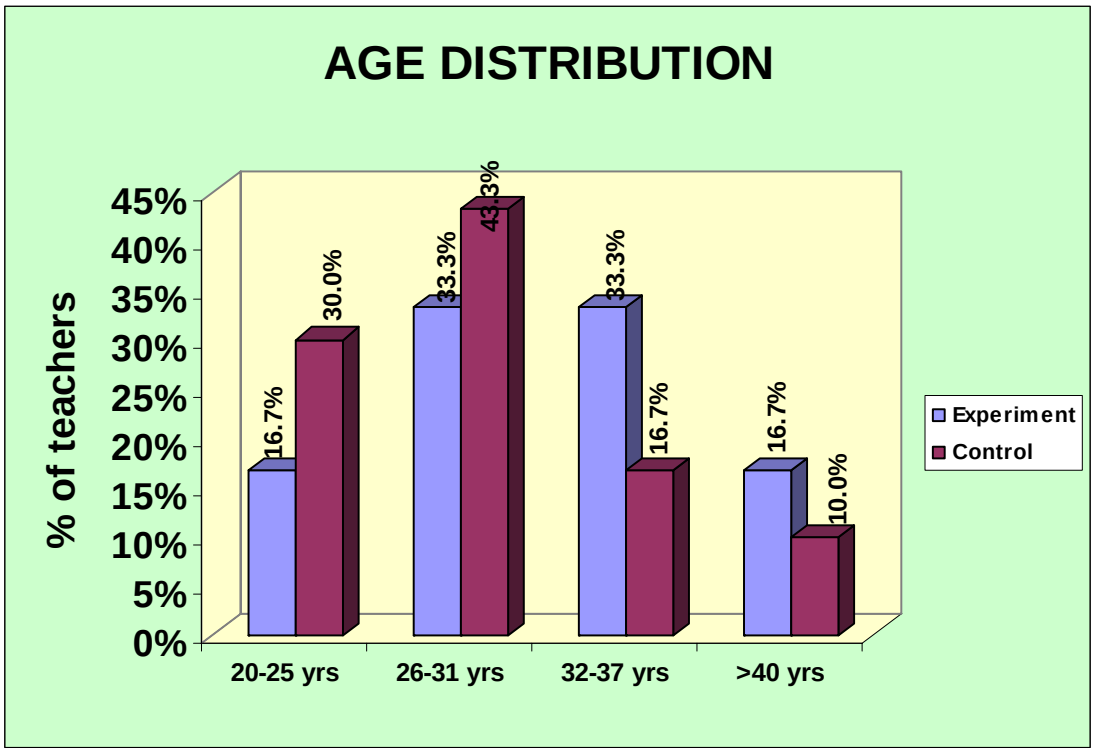
Table no.1 shows the experimental group and control group of primary school teachers demographic variables, for those who have participated in the following study “A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF - INSTRUCTIONAL MODULE REGARDING LEARNING DISABILITIES OF PRIMARY SCHOOL CHILDREN AMONG PRIMARY SCHOOL TEACHERS OF SELECTED SCHOOLS AT APPAKUDAL, ERODE DISTRICT”.

Statistical analysis shows that there is no statistically significant difference between experimental and control group. It means both groups are similar. It was calculated using Pearson chi-square test/Yates corrected chi-square test.

From the above table following findings are obtained,

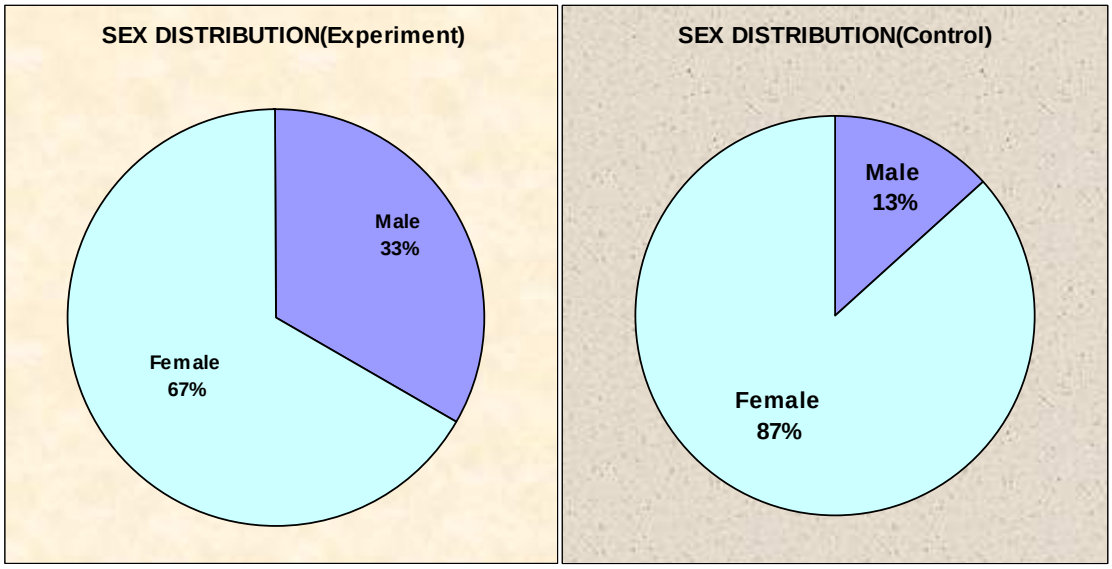
Descriptive analysis also termed as percentage analysis was performed for each questionnaire mainly to ascertain the distribution of the respondents under each category. This section deals with the data pertaining to the demographic variables of the respondents and the results are given in Table:1.

Figure 3: Bar diagram shows distribution of age among the experimental and control group of primary school teachers.



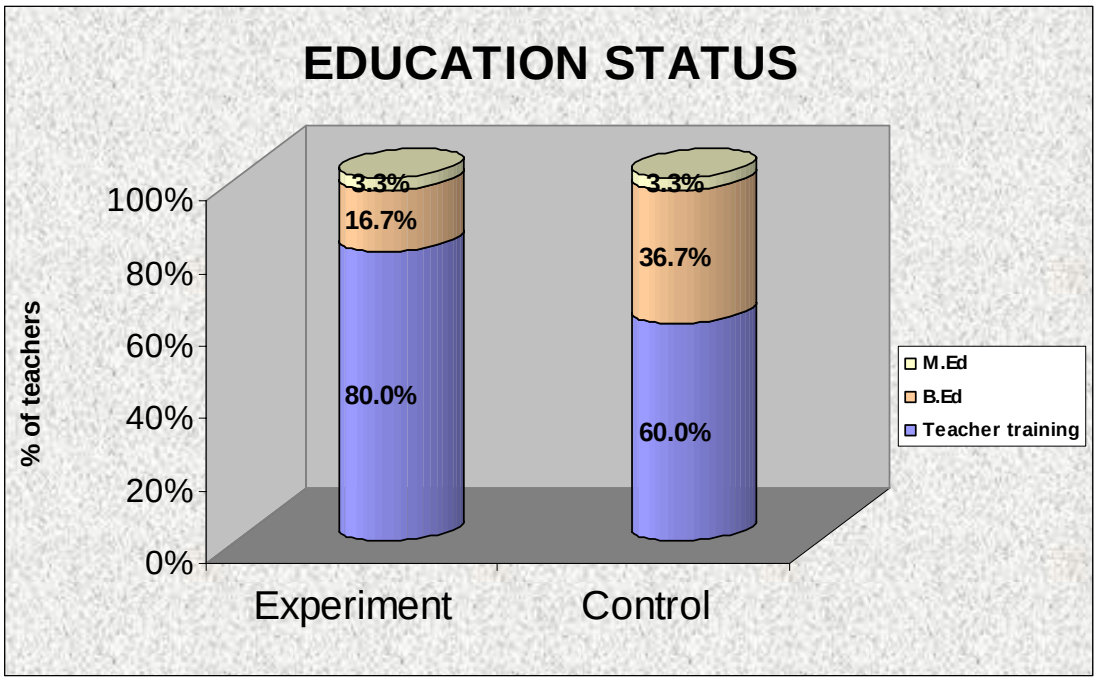
The above figure shows age of teachers, the results of experimental group shows that 33.3% of samples are in the age group of 26-31 years and 32-37 years, 16% are in the age group of 20-25 years and above 40 years, Similarly in control group 43.3% of samples are in the age group of 26-31 years, 30% are in the age group 20-25 years, 16.7% are in the age group of 32-37 years and 10% are in the age group of above 40 years. Thus, it can be interpreted that highest percentage was in the age group of 26-31 years.

Figure 4: Pie diagram shows distribution of sex among the experimental and control group of primary school teachers.



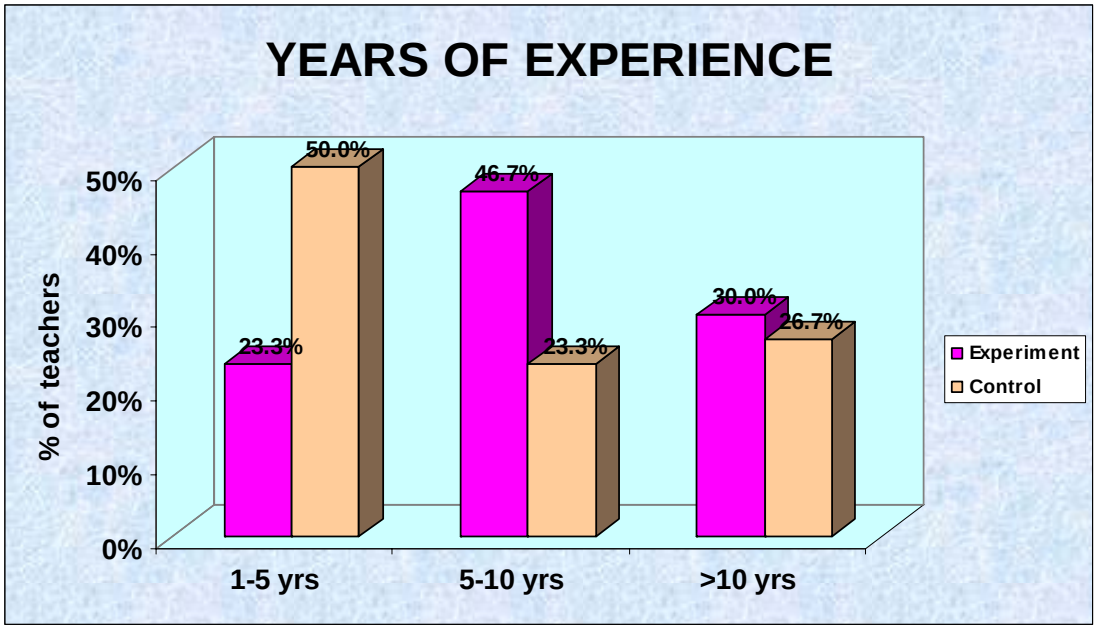
The above figure shows gender of teachers in experimental group are 33.3% was the male teachers, 66.7% was the female teachers, similarly in control group 13.3% of was the male, 86.7% was the females teachers. It shows highest percentage is the female teachers.

Figure 5: Cylinder diagram shows distribution of education status among the experimental and control group of primary school teachers.



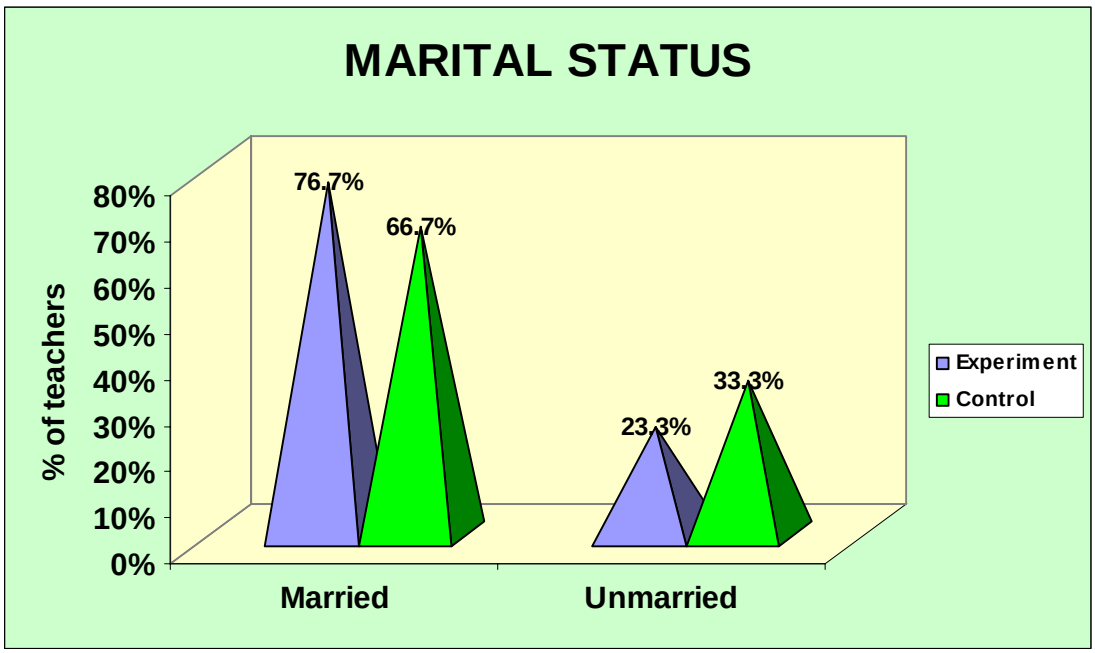
The above figure shows educational qualification of the primary school teachers, in experimental group 80.01 teachers had teachers training certificate, 16.7% of Teachers had B.Ed., 3.3% of M.Ed., similarly, in control group 60.0% of teachers had teacher-training programme and 36.7% had B.Ed., 3.3% of teachers had M.Ed. Highest percentage is teachers who had undergone teacher- training course.

Figure 6: Bar diagram shows distribution of years of experience among the experimental and control group of primary school teachers.



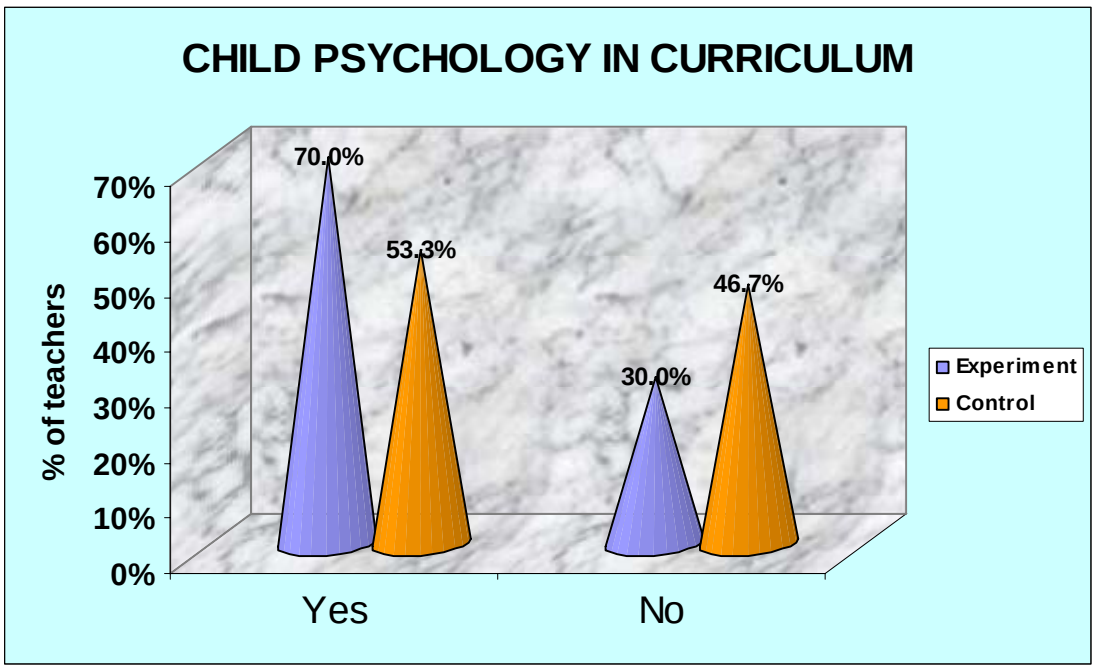
The above figure shows experience of teachers in experimental group was 23.3% of the teachers are 1-5 years, 46.7% of the teachers had 5-10 years of experience and 30.0% of the teachers are above 10 years of experience, control group shows 50.0% of teachers are 1-5 years of experience, 23.3% of teachers are 5-10 years of experience, 26.7% of teachers are above 10years of experience. It shows that most of the teachers are 1-5 years and 5-10 years of experience.

Figure 7: Pyramid diagram shows distribution of marital status among the experimental and control group of primary school teachers.



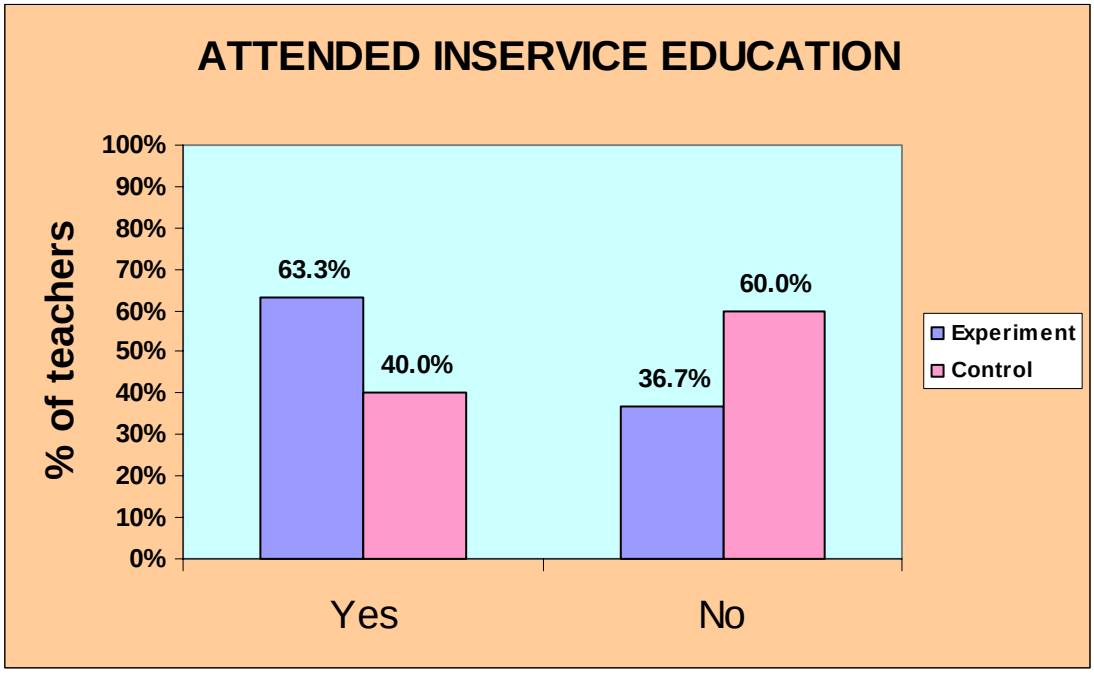
The above figure shows majority of school teachers are 23 (76.7%) in experimental group, 20 (66.7%) in control group were married, 7 (23.3%) in experimental group, 10 (33.3%) in control group were unmarried.

Figure 8: Cone diagram shows distribution of child psychology in curriculum among the experimental and control group of primary school teachers.



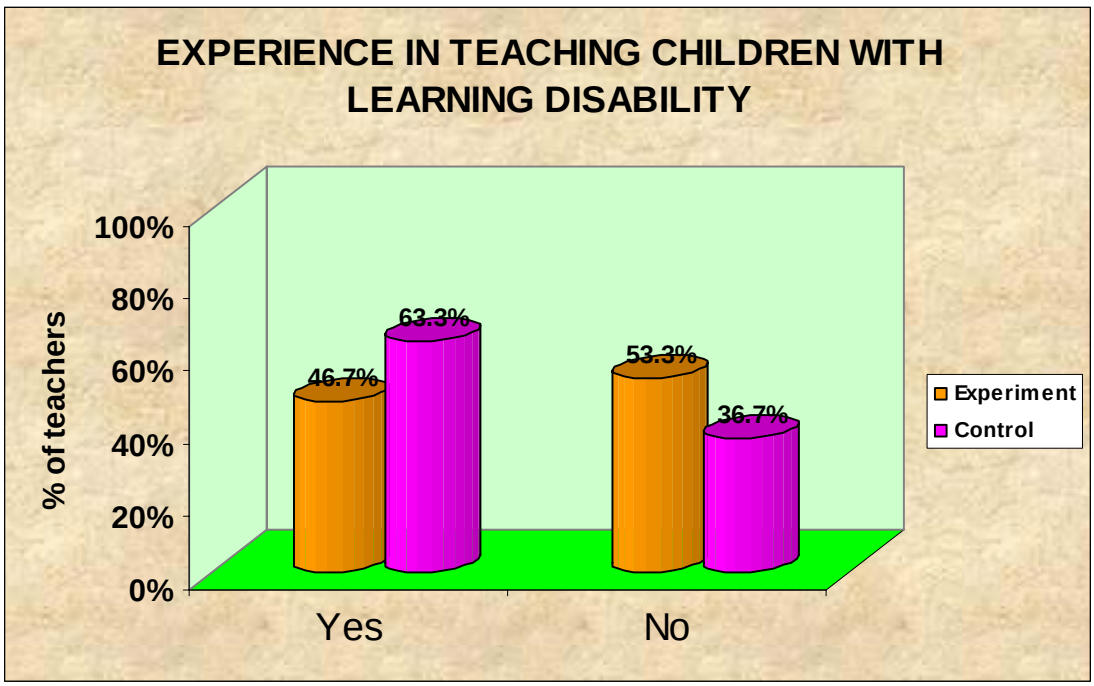
The above figure shows child psychology in curriculum results is experimental group 70.0% had child psychology in curriculum and remaining 30.0% teachers not had child psychology in curriculum. In control group, 53.3% of them had psychology in curriculum and remaining 46.7% of teachers not had child psychology in curriculum. It shows most of teachers had child psychology in their curriculum.

Figure 9: Bar diagram shows distribution of attended in-service education among the experimental and control group of primary school teachers



The above figure shows attended in service education in experimental group is 63.3% of teachers attended in service education and 36.7% of teachers not attended in service education. In control group 40.0% of teachers attended in service education, 60.0% of teachers not attended in service education. This show 50% of teaches attended in service education.

Figure 10: Cylinder diagram shows distribution of attended in-service education among the experimental and control group of primary school teachers



The above figure shows experience in teaching children with learning disability is experimental group 46.7% had experience, 53.3% had no experience. In control group, 63.3% of teachers had experience and 36.7% of teachers had no experience in learning disability**.**

SECTION - II

ASSESSMENT OF THE PRETEST AND POSTTEST KNOWLEDGE OF EXPERIMENTAL AND CONTROL GROUP OF TEACHERS REGARDING LEARNING DISABILITIES

PART- I: EXPERIMENTAL GROUP:

An attempt had been made to study the knowledge of primary school teachers using SIM under control and experimental group. After converting the qualitative information of the knowledge and into quantitative one the average score are obtained from the respondents on the various dimensions like general knowledge, introduction, meaning, incidence, causes, types, clinical manifestations, diagnostic evaluation, management of learning disability, effect of learning disability, role of teacher, prevention of learning disability and the effectiveness of SIM program obtained.

Table 2: LEARNING DISABILITIES KNOWLEDGE SCORE (Experiment)

	No. of questions	Min – Max score	Pretest knowledge		posttest knowledge	
			Mean score	%	Mean score	%
General Knowledge	3	**0 -3**	0.93	**31.00%**	2.80	**93.33%**
Introduction	3	**0 -3**	1.00	**33.33%**	2.23	**74.33%**
Meaning	5	**0 -5**	2.00	**40.00%**	3.97	**79.40%**
Incidence	3	**0 -3**	1.03	**34.33%**	2.27	**75.67%**
Causes	2	**0 -2**	0.83	**41.50%**	1.50	**75.00%**
Types	5	**0 -5**	2.17	**43.40%**	4.27	**85.40%**
Clinical Manifestation	2	**0 -2**	0.80	**40.00%**	1.47	**73.50%**
Diagnostic Evaluation	5	**0 -5**	2.43	**48.60%**	4.20	**84.00%**
Management of Leaning Disability	8	**0 -8**	3.57	**44.63%**	7.17	**89.62%**
Effect of Leaning Disability	2	**0 -2**	0.83	**41.50%**	1.77	**88.50%**
Role of teacher	1	**0 -1**	0.57	**57.00%**	0.90	**90.00%**

Prevention of Leaning Disability	1	**0 -1**	0.43	**43.00%**	0.77	**77.00%**

Table no.2 shows the experiment group of primary school teachers' pretest and posttest knowledge score on each aspect of learning disabilities. In pretest, primary school teachers scored only poor score but in posttest, they scored adequate score on learning disability questions.

Regarding three question in general knowledge in pretest mean score was 0.93 (31.00%) and in posttest mean score was 2.80 (93.33%) in experimental group.

Regarding three question in introduction knowledge in pretest mean score was 1.00 (33.33%) and in posttest mean score was 2.33 (74.33) in experimental group.

Regarding 5 question in meaning knowledge in pretest mean score was 2.00 (40.00%) and in posttest mean score was 3.97 (79.40%) in experimental group.

Regarding 3 question in incidence knowledge in pretest mean score was 1.03 (34.33%) and in posttest mean score was 2.27 (75.67%) in experimental group.

Regarding 2 question in cause knowledge, in pretest mean score was 0.83 (41.50%) and in posttest mean score was 1.50 (75.00%) in experimental group.

Regarding 5 question types knowledge, in pretest mean score was 2.17 (43.40%) and post test was mean score was 4.27 (85.40%) in experimental group.

Regarding 2 question, clinical manifestation knowledge in pretest mean score was 0.80 (40.00%) and in posttest mean score 1.47 (73.50%) in experimental group.

Regarding 5 questions diagnostic evaluation knowledge in pretest mean score was 2.43 (48.60%) and in posttest mean score was 4.20 (84.00%) in experimental group.

Regarding 8 question, management of learning disabilities knowledge in pretest mean score was 3.57 (44.63%) and in posttest mean score 7.17 (89.62%) in experimental group.

Regarding 2 question, effect of learning disability knowledge in pretest mean score was 0.83 (41.50%) and in posttest mean score 1.77 (88.50%) in experimental group.

Regarding 1 question, role of teachers knowledge in pretest mean score was 0.57 (57.00%) and posttest mean score was 0.90 (90.00%) in experimental group.

Regarding 1 question, prevention of learning disability knowledge in pretest mean score 0.43 (43.00%) and posttest mean score was 0.77 (77.00%).

Table 3: OVERALL KNOWLEDGE SCORE (Experiment)

	No. of questions	Min – Max score	Pretest knowledge		posttest knowledge	
			Mean score	%	Mean score	%
Overall mean score	**40**	**0 -40**	**16.6**	**41.50%**	**33.3**	**83.25%**

Table no.3 shows the experiment group of primary school teachers pretest and posttest overall knowledge score on learning disabilities. In pretest, primary school teachers scored only poor score but in posttest, they scored adequate score on learning disability questions. Overall knowledge shows, they improved their knowledge from 41.50% to 83.25%.

Table 4: LEVEL OF KNOWLEDGE (Experiment)

Level of knowledge	Pretest	posttest
Inadequate	**26(86.7%)**	**0(0.0%)**
Moderately Adequate	**4(13.3%)**	**6(20.0%)**
Adequate	**0(0.0%)**	**24(80.0%)**

Table no. 4 shows the pretest and posttest overall level of knowledge for experiment group. In pretest, 86.7% of primary school teachers are having inadequate knowledge regarding learning disability. In posttest, none of the primary school teachers is having inadequate knowledge regarding learning disability.

Score 0 - 40

< 50% inadequate knowledge = 0 – 20 score

51 -75% moderately adequate knowledge = 21 – 30 score

76-100% adequate knowledge = 31 -40 score

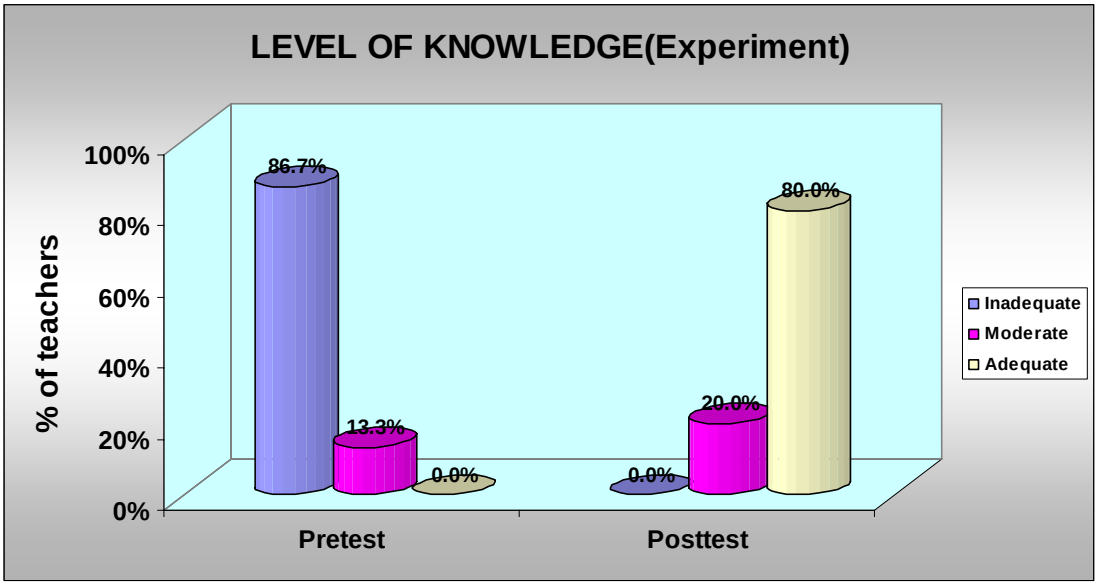


Fig 11: Cylinder diagram shows distribution of level of knowledge among of the experimental group of primary school teachers.

PART-II: CONTROL GROUP

Table 5: LEARNING DISABILITIES KNOWLEDGE SCORE (Control)

	No. of questions	**Min – Max score**	**Pretest knowledge**		**posttest knowledge**	
			Mean score	**%**	**Mean score**	**%**
General Knowledge	3	**0 -3**	1.17	**39.00%**	1.50	**50.00%**
Introduction	3	**0 -3**	0.87	**29.00%**	1.07	**35.67%**
Meaning	5	**0 -5**	2.53	**50.60%**	2.67	**53.40%**
Incidence	3	**0 -3**	0.60	**20.00%**	0.73	**24.33%**
Causes	2	**0 -2**	0.77	**38.50%**	0.93	**46.50%**
Types	5	**0 -5**	2.00	**40.00%**	2.17	**43.40%**
Clinical Manifestation	2	**0 -2**	1.03	**51.50%**	1.07	**53.50%**
Diagnostic Evaluation	5	**0 -5**	2.67	**53.40%**	2.80	**56.00%**
Management of Leaning Disability	8	**0 -8**	4.07	**50.87%**	4.27	**53.38%**
Effect of Leaning Disability	2	**0 -2**	0.63	**31.50%**	0.80	**40.00%**
Role of teacher	1	**0 -1**	0.57	**57.00%**	0.60	**60.00%**
Prevention of Leaning Disability	1	**0 -1**	0.33	**33.00%**	0.50	**50.00%**

Table no.5 shows the control group of primary school teachers' pretest and posttest knowledge score on each aspect of learning disabilities. In pretest, primary school teachers scored only inadequate score and in posttest, they scored inadequate score on learning disability questions.

Regarding three question in general knowledge in pretest mean score was 1.17 (39.00%) and in post test mean score was 1.50 (50.00%) in control group.

Regarding three question in introduction knowledge in pretest mean score was 0.87 (29.00%) and in posttest mean score was 1.07 (35.67%) in control group.

Regarding 5 question in meaning knowledge in pretest mean score was 2.53 (50.60%) and in post test mean score was 2.67 (53.40%) in control group.

Regarding 3 question in incidence knowledge in pre test mean score was 0.60 (20.00%) and in post test mean score was 0.73 (24.33%) in control group.

Regarding 2 question in cause knowledge, in pretest mean score was 0.77 (38.50%) and in posttest mean score was 0.93 (46.50%) in control group.

Regarding 5 question types knowledge in pretest mean score was 2.00 (40.00%) and post test was mean score was 2.17 (43.40%) in control group.

Regarding 2 question clinical manifestation knowledge in pretest mean score was 1.03 (51.50%) and in posttest mean score 1.07 (53.50%) in control group.

Regarding 5 questions diagnostic evaluation knowledge in pretest mean score was 2.67 (53.40%) and in post test mean score was 2.80 (56.00%) in control group.

Regarding 8 question Management of learning disabilities, knowledge in pretest mean score was 4.07 (50.87%) and in post test mean score 4.27 (53.38%) in control group.

Regarding 2 question effect of learning disability, knowledge in pretest mean score was 0.63 (31.50%) and in post test mean score 0.80 (40.00%) in control group.

Regarding 1 question role of teachers knowledge, in pretest mean score was 0.57 (57.00%) and posttest mean score 0.60 (60.00%) in control group.

Regarding 1 question prevention of learning disability, knowledge in pretest mean score 0.33 (33.00%) and posttest mean score was 0.50 (50.00%).

Table 6: OVERALL KNOWLEDGE SCORE (Control)

	No. of questions	Min – Max score	Pretest knowledge		posttest knowledge	
			Mean score	%	Mean score	%
Overall mean score	**40**	**0 -40**	**17.2**	**43.00%**	**19.1**	**47.75%**

Table no.6 shows the control group of primary school teachers pretest and posttest overall knowledge score on learning disabilities. In pretest, primary school teachers scored only poor score and in posttest, they scored inadequately on learning disability questions. Overall knowledge score shows, they improved their knowledge from 43.00% to 47.75%.

Table 7: LEVEL OF KNOWLEDGE (Control)

Level of knowledge	Pretest	Posttest
Inadequate	26(86.7%)	25(83.3%)
Moderately Adequate	4(13.3%)	5(16.7%)
Adequate	0(0.0%)	0(0.0%)

Table no. 7 shows the pretest and posttest overall level of knowledge for control group. In pretest, 86.7% of primary school teachers are having inadequate knowledge regarding learning disability. In posttest, also 83.3% of primary school teachers are having inadequate knowledge regarding learning disability.

Score 0 - 40

< 50% inadequate knowledge = 0 – 20 score

51 -75% moderately adequate knowledge = 21 – 30 score

76 -100% adequate knowledge = 31 -40 score

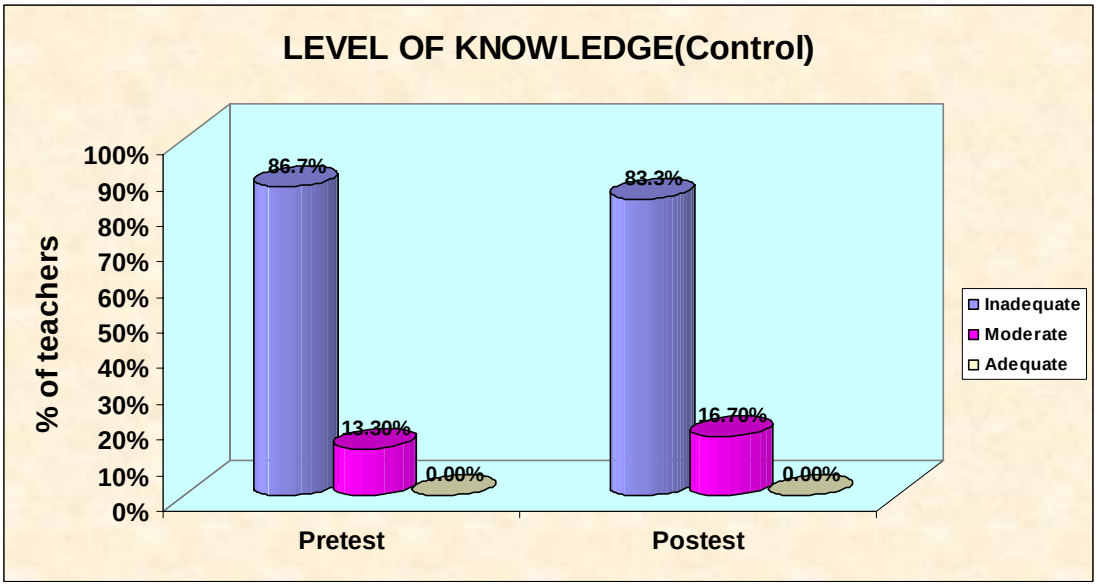


Figure 12: Cylinder diagram shows level of knowledge among the control group of primary school teachers.

SECTION III

COMPARISON OF PRETEST AND POSTTEST KNOWLEDGE OF EXPERIMENTAL AND CONTROL GROUP OF TEACHERS REGARDING LEARNING DISABILITIES.

Part I: EXPERIMENTAL GROUP

Table 8: COMPARISON OF PRETEST & POSTTEST KNOWLEDGE SCORE(Experiment)

Knowledge	Pretest knowledge		Posttest knowledge		Student's paired t-test
	Mean	SD	Mean	SD	
General Knowledge	0.93	0.83	2.80	0.41	t=10.91 P=0.001 significant
Introduction	1.00	0.95	2.23	0.68	t=5.40 P=0.001 significant
Meaning	2.00	1.14	3.97	0.72	**t** =8.85 P=0.001 significant
Incidence	1.03	0.81	2.27	0.78	t=6.11 P=0.001 significant
Causes	0.83	0.79	1.50	0.57	t=3.96 P=0.001 significant
Types	2.17	1.18	4.27	0.69	t=7.82 P=0.001 significant
Clinical Manifestation	0.80	0.76	1.47	0.63	t=4.32 P=0.001 significant
Diagnostic Evaluation	2.43	1.04	4.20	0.76	t=7.91 P=0.001 significant
Management	3.57	1.50	7.17	1.05	t=10.77 P=0.001 significant
Effect	0.83	0.75	1.77	0.50	t=5.63 P=0.001 significant
Role of teacher	0.57	0.50	0.90	0.31	t=3.01 P=0.005 significant
Prevention	0.43	0.50	0.77	0.43	t=3.02 P=0.005 significant

Table no 8 compares the pre and posttest knowledge score. It shows there is a significant difference between pretest and posttest score of primary school teachers' knowledge on all aspects of learning disability. It was analyzed using student's paired t-test.

In experimental group of knowledge of teachers regarding learning disabilities general knowledge in pretest mean score was 0.93 and standard deviation is 0.83 and in post test mean score was 2.80 and standard deviation is 0.41 with student paired ‘t’ value is 10.91, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities introduction knowledge in pretest mean score was 1.00 and standard deviation is 0.95 and in posttest mean score was 2.23 and standard deviation is 0.68 with student paired ‘t’ value is 5.40, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities meaning knowledge in pretest mean score was 2.00 and standard deviation is 1.14 and in post test mean score was 3.97 and standard deviation is 0.72 with student paired ‘t’ value is 8.85, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities Incidence knowledge in pretest mean score was 1.03 and standard deviation is 0.81 and in posttest mean score was 2.27 and the standard deviation is 0.78 with student paired ‘t’ value is 6.11, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities causes knowledge in pretest mean score was 0.83 and standard deviation is 0.79 and in posttest mean score was 1.50 and standard deviation is 0.57 with student paired ‘t’ value is 3.96, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities types knowledge in pretest mean score was 2.17 and standard deviation is 1.18 and in

posttest mean score was 4.27 and standard deviation is 0.69 with student paired ‘t’ value is 7.82, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities clinical manifestations knowledge in pretest mean score was 0.80 and standard deviation is 0.76 and in post test mean score was 1.47 and standard deviation is 0.63 with student paired ‘t’ value is 4.32, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities diagnostic evaluation knowledge in pretest mean score was 2.43 and standard deviation is 1.04 and in posttest mean score was 4.20 and standard deviation is 0.76 with student paired ‘t’ value is 7.91, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities management knowledge in pretest mean score was 3.57 and standard deviation is 1.50 and in post test mean score was 7.17 and standard deviation is 1.05 with student paired ‘t’ value is 10.77, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities effect of learning disabilities knowledge in pretest mean score was 0.83 and standard deviation is 0.75 and in post test mean score was 1.77 and standard deviation is 0.50 with student paired ‘t’ value is 5.63, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities the role of teachers knowledge in pretest mean score was 0.57 and standard deviation is 0.50 and in post test mean score was 0.90 and standard deviation is 0.31 with student paired ‘t’ value is 3.01, P=0.001and it is statistically significant.

In experimental group of knowledge of teachers regarding learning disabilities prevention of LD knowledge in pretest mean score was 0.43 and standard deviation is 0.50 and in post test mean score was 0.77 and standard deviation is 0.43 with student paired ‘t’ value is 3.02, P=0.001 and it is statistically significant.

Table 9: DETERMINATION OF OVERALL KNOWLEDGE SCORE (Experiment)

	No. of teachers	Pretest Mean±SD	Posttest Mean±SD	Student paired t-test
Overall Knowledge Score	30	16.6 ± 3.03	33.3 ± 2.01	t=22.61 P=0.001 significant

Table no 9 shows the comparison of overall knowledge score. On an average primary school teachers are improved their knowledge from 16.6 to 33.3 on learning disability or we can say , in pretest they are able to answer only 17 questions, in posttest they are able to answer up to 33 questions. This improvement is statistically significant. It was analysed using student ‘s paired t-test.

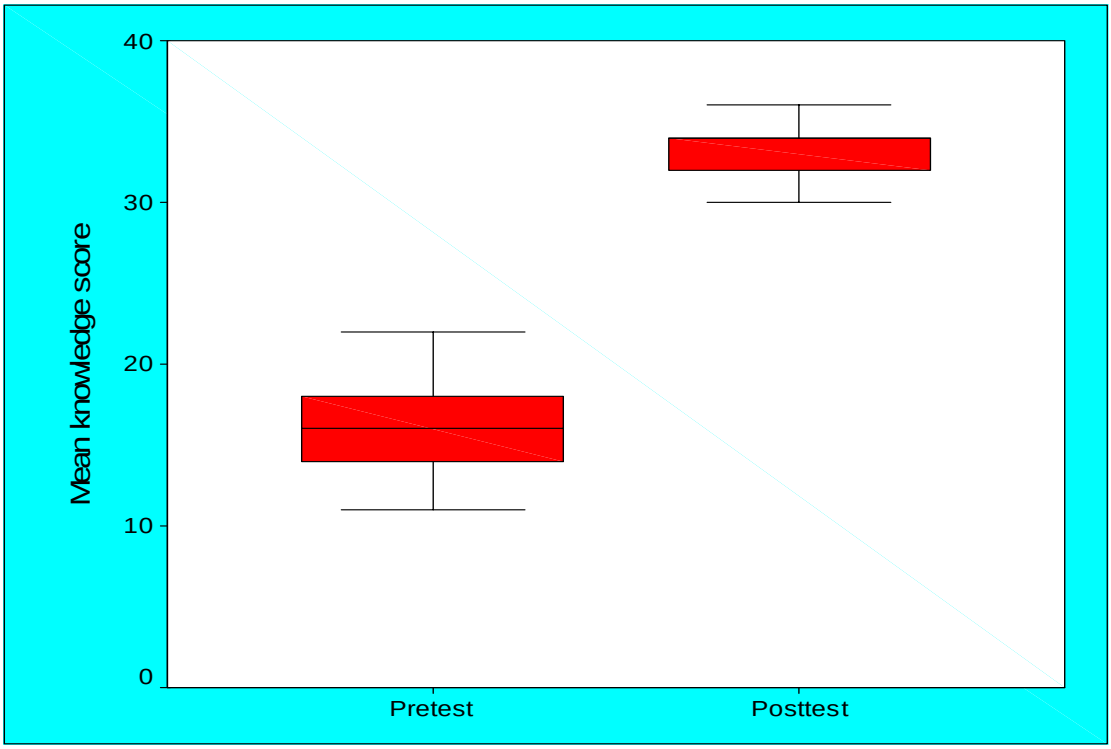


Fig 13: Box Plot compares the experimental group primary school teacher's pretest and posttest knowledge score on learning disability

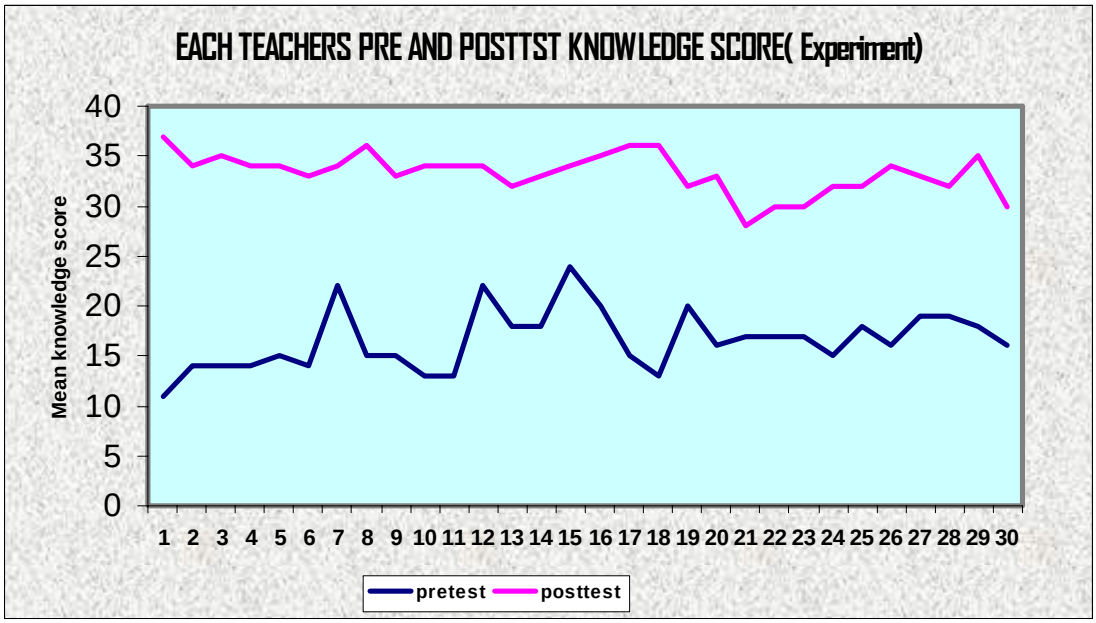


Fig 14: Line diagram compares the experimental group primary school teachers' pretest and posttest knowledge score on learning disability

Part II: CONTROL GROUP

Table 10: COMPARISON OF PRETEST & POSTTEST KNOWLEDGE SCORE (Control)

Knowledge	Pretest knowledge		Posttest knowledge		Student's paired t-test
	Mean	SD	Mean	SD	
General Knowledge	1.17	1.02	1.50	0.94	t=1.51 P=0.14 not significant
Introduction	0.87	0.86	1.07	0.64	t=1.23 P=0.22 not significant
Meaning	2.53	0.78	2.67	0.76	**t** =1.93 P=0.06 not significant
Incidence	0.60	0.62	0.73	0.58	t=1.94 P=0.06 not significant
Causes	0.77	0.68	0.93	0.52	t=1.15 P=0.26 not significant
Types	2.00	0.95	2.17	0.79	t=0.84 P=0.40 not significant
Clinical Manifestation	1.03	0.41	1.10	0.66	t=0.52 P=0.60 not significant
Diagnostic Evaluation	2.67	0.84	2.80	0.76	t=1.71 P=0.10 not significant
Management	4.07	0.94	4.27	0.78	t=1.79 P=0.09 not significant
Effect	0.63	0.61	0.80	0.55	t=1.30 P=0.20 not significant
Role of teacher	0.57	0.50	0.60	0.50	t=0.25 P=0.80 not significant
Prevention	0.33	0.48	0.50	0.51	t=1.72 P=0.10 not significant
OVERALL	17.23	2.06	19.13	2.11	t=1.93 P=0.06 not significant

Table no 10 Compares the pre and posttest knowledge score, it was analysed using student‘s paired t-test. It shows there is no significant difference between pretest and posttest score of primary school teacher’s knowledge on learning disability.

Table 11: DETERMINATION OF OVERALL KNOWLEDGE SCORE (Control)

	No. of students	Pretest Mean±SD	Posttest Mean±SD	Student paired t-test
Overall Knowledge Score	30	17.23 ± 2.06	19.13 ± 2.11	t=1.93 P=0.06 Not significant

Table no 11 shows the comparison of overall knowledge score. On an average primary school teachers are improved their knowledge from 17.23 to 19.13on learning disability or we can say, in pretest they are able to answer only 17 questions, in posttest they are able to answer up to 19 questions This improvement is statistically not significant. It was analysed using student ‘s paired t-test.

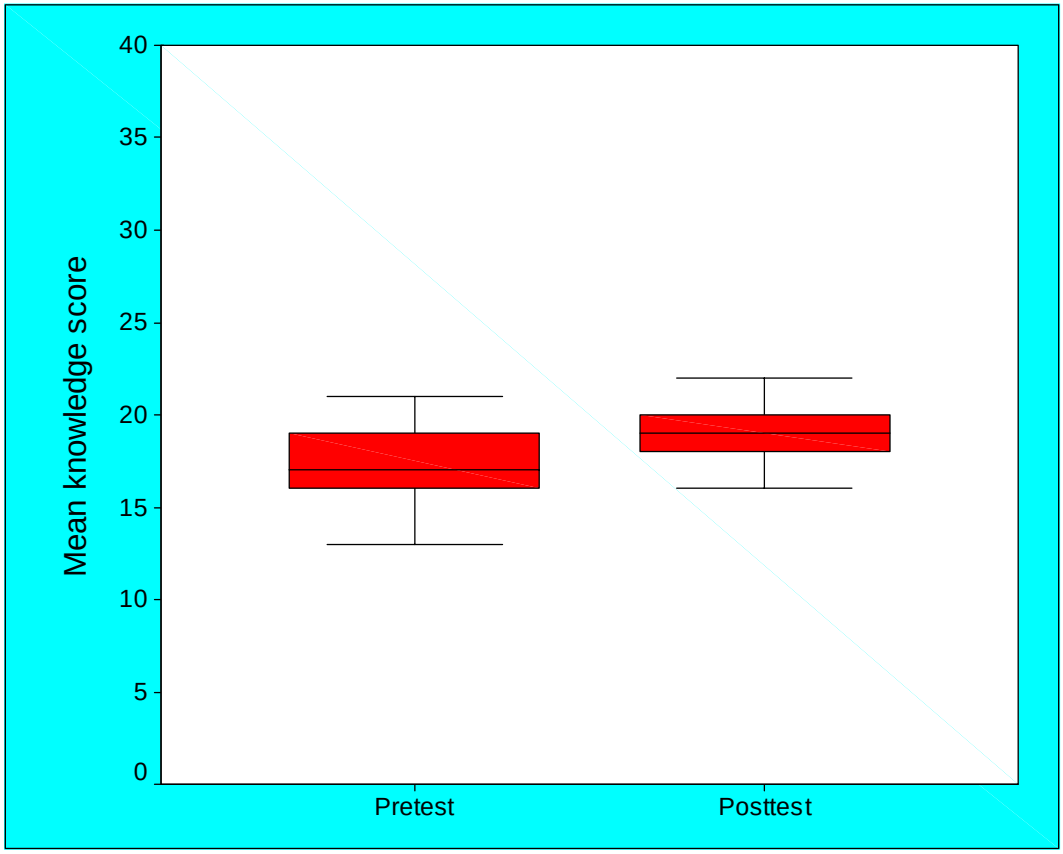


Fig 15: Box Plot compares the control group primary school teachers’ pretest and posttest knowledge score on learning disability

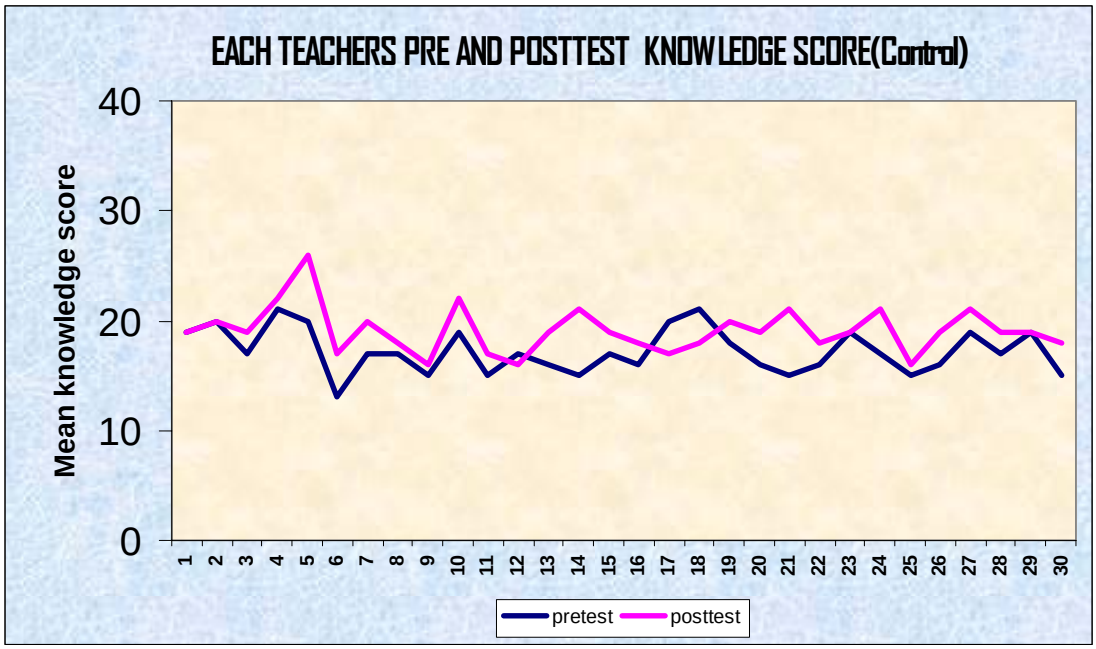


Fig 16: Line diagram compares the control group primary school teachers pretest and posttest knowledge score on learning disability

SECTION IV

TO COMPARE THE POSTTEST KNOWLEDGE OF EXPERIMENTAL AND CONTROL GROUP OF TEACHER REGARDING LEARNING DISABILITIES

Table 12: COMPARISON OF EXPERIMENTAL & CONTROL GROUP OVERALL KNOWLEDGE SCORE

Knowledge	Experiment group		Control group		Student's Independent t-test
	Mean	SD	Mean	SD	
Pretest	16.60	3.04	17.23	2.06	t=0.94 P=0.35 not significant
Posttest	33.30	2.02	19.13	2.11	**t=26.57 P=0.001 significant**

Comparison of experiment and control group of knowledge score was analysed using student's independent t-test. In pretest, there is no significant difference between experiment and control group, but after SIM, it is observed significant difference between experiment and control

Table 13 : EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE

		Pretest	**Posttest**	**% of Difference**	**Net Benefit**
Knowledge	Experiment	41.50%	83.25%	41.75%	**41.75%**

Table no 13 shows the effectiveness of the SIM considering the overall score, teachers gained 41.75 percent more knowledge on learning disability, after the administration of SIM. Thus, 41.75 percent of knowledge gain is the net benefit of this study, which indicates the effectiveness of SIM.

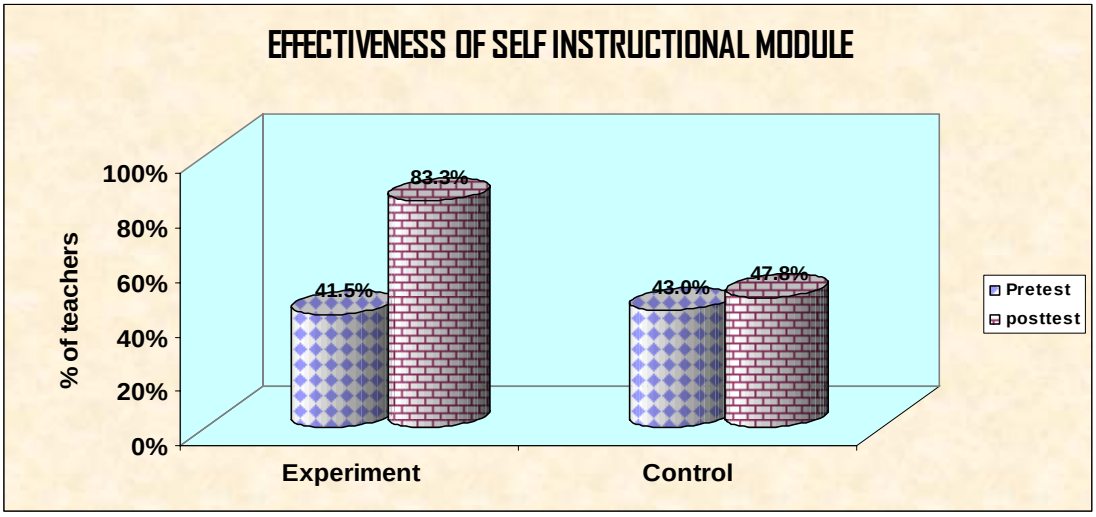


Fig 17: Cylinder diagram compares the experimental and control group primary school teachers pretest and posttest knowledge score on LD

SECTION - V

FIND OUT SIGNIFICANT ASSOCIATION BETWEEN KNOWLEDGE OF EXPERIMENTAL AND CONTROL GROUP OF PRIMARY SCHOOL TEACHERS AND SELECTED DEMOGRAPHIC VARIABLES REGARDING LEARNING DISABILITIES

Table 14: ASSOCIATION BETWEEN PRETEST LEVEL OF KNOWLEDGE AND THEIR DEMOGRAPHIC VARIABLES (Experiment)

		Pretest				Total	Chi square test/ Yates corrected chi square test
		Inadequate		Moderate			
		n	%	n	%		
Age	20-30 yrs	12	80.0%	3	20.0%	15	$\chi 2=1.15 P=0.28$ Not significant
	>30 yrs	14	93.3%	1	6.7%	15	
Gender	Male	8	80.0%	2	20.0%	10	$\chi 2=0.58 P=0.45$ Not significant
	Female	18	90.0%	2	10.0%	20	
Educational Qualification	Teacher training	21	87.5%	3	12.5%	24	$\chi 2=0.16 P=0.68$ Not significant
	B.Ed/M.Ed	5	83.33%	1	16.66%	6	
Years of Experience	0-10 yrs	17	80.9%	4	19.1%	21	$\chi 2=1.98 P=0.15$ Not significant
	>10yrs	9	100.0%	0	0.0%	9	
Marital Status	Married	21	91.3%	2	8.7%	23	$\chi 2=1.83 P=0.18$ Not significant
	Unmarried	5	71.4%	2	28.6%	7	
Child Psychology in Curriculum	Yes	17	81.0%	4	19.0%	21	$\chi 2=1.98 P=0.16$ Not significant
	No	9	100.0%	0	0.0%	9	
Attended in service education	Yes	17	89.5%	2	10.5%	19	$\chi 2=0.35 P=0.55$ Not significant
	No	9	81.8%	2	18.2%	11	
Experience in Teaching children with learning disability	Yes	12	85.7%	2	14.3%	14	$\chi 2=0.02 p=0.88$ Not significant
	No	14	87.5%	2	12.5%	16	

Table no 14 shows the association between socio-demographic variables and the pretest level of knowledge among experimental group teachers. None of the demographic variables is significantly associated with their knowledge score. It was calculated using Pearson chi square test/Yates corrected chi square test.

Table 15: ASSOCIATION BETWEEN POSTTEST LEVEL OF KNOWLEDGE AND THEIR DEMOGRAPHIC VARIABLES (Experiment)

		Post-test				Total	Chi square test/ Yates corrected chi square test
		Moderate		Adequate			
		n	%	n	%		
Age	20-30 yrs	0	0.0%	15	100.0%	15	**$\chi 2$=5.21P=0.02 significant**
	>30 yrs	6	40.0%	9	60.0%	15	
Gender	Male	2	20.0%	8	80.0%	10	$\chi 2$=0.00P=1.00 Not significant
	Female	4	20.0%	16	80.0%	20	
Educational Qualification	Teacher training	6	25.0%	18	75.0%	24	$\chi 2$=1.87P=0.39 Not significant
	B.Ed/M.Ed	0	0.0%	6	100.0%	6	
Years of Experience	0-10 yrs	1	4.8%	20	95.2%	21	**$\chi 2$=7.23P=0.007 significant**
	>10 yrs	5	55.6%	4	44.4%	9	
Marital Status	Married	6	26.1%	17	73.9%	23	$\chi 2$=2.28P=0.13 Not significant
	Unmarried	0	0.0%	7	100.0%	7	
Child Psychology in Curriculum	Yes	3	14.3%	18	85.7%	21	$\chi 2$=1.42P=0.23 Not significant
	No	3	33.3%	6	66.7%	9	
Attended in service education	Yes	5	26.3%	14	73.7%	19	$\chi 2$=1.29P=0.25 Not significant
	No	1	9.1%	10	90.9%	11	
Experience in Teaching children with learning disability	Yes	3	21.4%	11	78.6%	14	$\chi 2$=0.03p=0.86 Not significant
	No	3	18.8%	13	81.3%	16	

Table no 15 shows the association between socio-demographic variables and the posttest level of knowledge among the experimental group of teachers age and years of experience are significantly associated with their posttest level of knowledge. Younger teachers and less than 10 years service teachers have gained more knowledge than others have. Statistical significance was calculated using Pearson chi square test/Yates corrected chi square test.

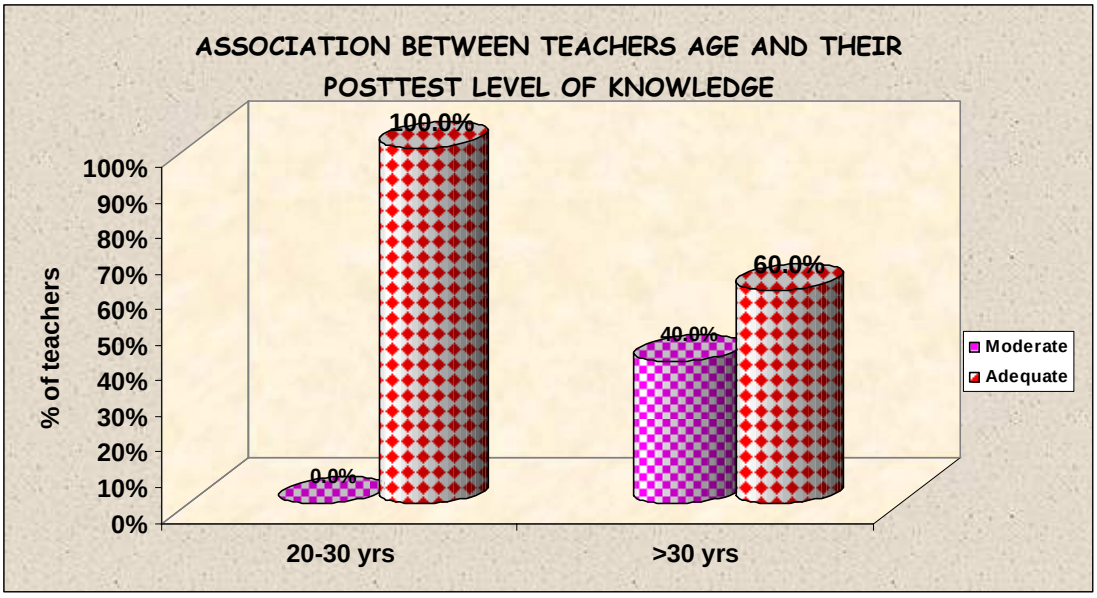


Figure 18: Cylinder diagram shows association of experimental group teacher's of post test level of knowledge with their age group

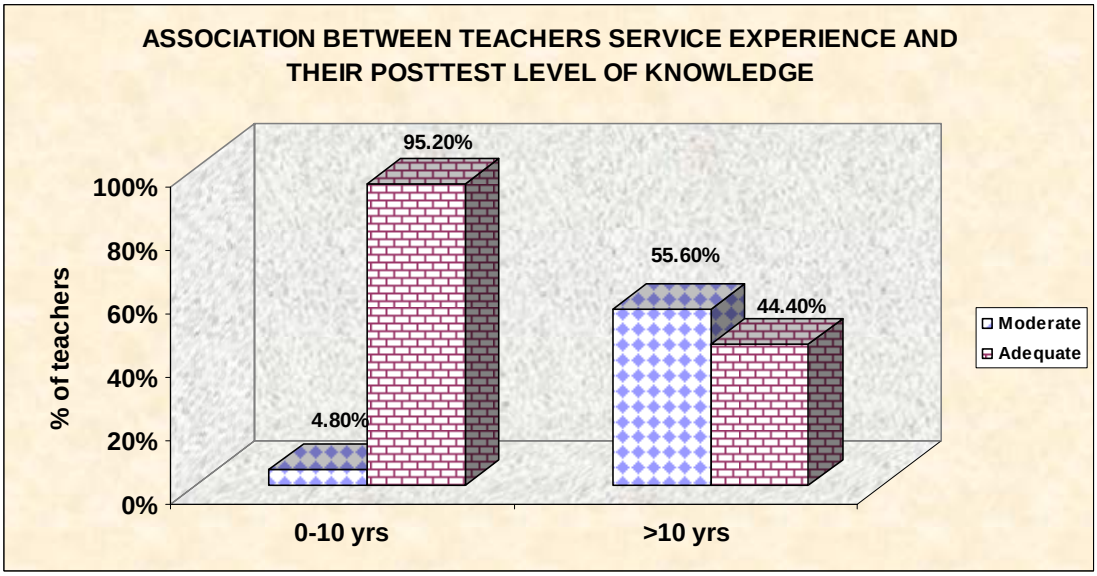


Figure 19: Cylinder diagram shows association of experimental group teacher's of post test level of knowledge with their experience

Table 16: ASSOCIATION BETWEEN PRETEST LEVEL OF KNOWLEDGE AND THEIR DEMOGRAPHIC VARIABLES (Control)

		Pretest				Total	Chi square test/ Yates corrected chi square test
		Inadequate		Moderate			
		n	%	n	%		
age	20-30 yrs	19	86.4%	3	13.6%	22	$\chi 2=0.02 P=0.93$
	>30 yrs	7	87.5%	1	12.5%	8	Not significant
gender	Male	4	100.0%	0	0.00	4	$\chi 2=0.01 P=0.97$
	Female	22	84.6%	4	15.4%	26	Not significant
Educational Qualification	Teacher training	14	77.8%	4	22.2%	18	$\chi 2=3.08 P=0.21$
	B.Ed/M.Ed	12	1000.0%	0	20.0%	12	Not significant
Years of Experience	0-10 yrs	19	86.4%	3	13.6%	22	$\chi 2=1.66 P=0.44$
	>10yrs	7	87.5%	1	12.5%	8	Not significant
Marital Status	Married	18	90.0%	2	10.0%	20	$\chi 2=0.58 P=0.45$
	Unmarried	8	80.0%	2	20.0%	10	Not significant
Child Psychology in Curriculum	Yes	12	75.0%	4	25.0%	16	$\chi 2=2.16 P=0.14$
	No	14	100.0%	0	0.00	14	Not significant
Attended in service education	Yes	10	83.3%	2	16.7%	12	$\chi 2=0.19 P=0.66$
	No	16	88.9%	2	11.1%	18	Not significant
Experience in Teaching children with learning disability	Yes	17	89.5%	2	10.5%	19	$\chi 2=0.35 P=0.55$ Not significant
	No	9	81.8%	2	18.2%	11	

Table no 16 shows the association between socio-demographic variables and the pretest level of knowledge among control group teachers. None of the demographic variables are significantly associated with their knowledge score. It was calculated using Pearson chi square test/Yates corrected chi square test.

Table 17: ASSOCIATION BETWEEN POSTTEST LEVEL OF KNOWLEDGE AND THEIR DEMOGRAPHIC VARIABLES (Control)

		Posttest				Total	Chi square test/ Yates corrected chi square test
		Inadequate		Moderate			
		n	%	n	%		
age	20-30 yrs	18	81.8%	4	18.2%	22	$\chi 2=0.14 P=0.71$
	>30 yrs	7	87.5%	1	12.5%	8	Not significant
gender	Male	4	100.0%	0	0.0%	4	$\chi 2=0.06 P=0.81$
	Female	21	80.8%	5	19.2%	26	Not significant
Educational Qualification	Teacher training	13	72.2%	5	27.8%	18	$\chi 2=2.25 P=0.13$ Not significant
	B.Ed/M.Ed	12	100.0%	0	0.0%	12	
Years of Experience	0-10 yrs	18	86.4%	4	13.6%	22	$\chi 2=0.47 P=0.49$
	>10yrs	7	87.5%	1	12.5%	8	Not significant
Marital Status	Married	17	85.0%	3	15.0%	20	$\chi 2=0.01 P=0.99$
	Unmarried	8	80.0%	2	20.0%	10	Not significant
Child Psychology in Curriculum	Yes	12	75.0%	4	25.0%	16	$\chi 2=0.67 P=0.41$
	No	13	92.9%	1	7.1%	14	Not significant
Attended in service education	Yes	9	75.0%	3	25.0%	12	$\chi 2=0.25 P=0.61$
	No	16	88.9%	2	11.1%	18	Not significant
Experience in Teaching children with learning disability	Yes	16	84.2%	3	15.8%	19	$\chi 2=0.03 P=0.87$ Not significant
	No	9	81.8%	2	18.2%	11	

Table no 17 shows the association between socio-demographic variables and the posttest level of knowledge among control group teachers. None of the demographic variables are significantly associated with their knowledge score. It was calculated using Pearson chi square test/Yates corrected chi square test.

CHAPTER V

DISCUSSION

This chapter discusses the main findings of the research study and reviews that in relation to the findings from the result of the present study. For this study, the data was obtained regarding learning disabilities among of children among the teachers in selected schools at Erode District.

STATEMENT OF THE PROBLEM:

"A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF - INSTRUCTIONAL MODULE REGARDING LEARNING DISABILITIES OF PRIMARY SCHOOL CHILDREN AMONG PRIMARY SCHOOLS TEACHERS OF SELECTED SCHOOLS AT APPAKUDAL, ERODE DISTRICT".

OBJECTIVES OF THE STUDY:

1. To assess the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.
2. To compare the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.
3. To compare the posttest knowledge of experimental and control group of teacher regarding learning disabilities.
4. To findout significant association between knowledge of experimental and control group of primary school teachers and selected demographic variables regarding learning disabilities.

To assess the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities

Table 4 revealed that the level of knowledge regarding learning disability in experimental group. During pretest was inadequate knowledge was 26 (86.77%) of subjects moderately adequate knowledge was 4 (13.3%) of subjects, No adequate knowledge was 0 (0%) whereas, during the posttest the level of knowledge adequate 24 (80%) of subjects and moderately adequate knowledge 6 (20.00%) of subject and inadequate knowledge 0 (0.0%) after the self-instructional module.

Table 7 showed that the level of knowledge in control group during pretest inadequate knowledge among 26 (86.7%) of subjects, moderately adequate knowledge among 4 (13.3%) of subjects, adequate knowledge was 0 (0.0%). In posttest the level of knowledge score was inadequate knowledge among 25 (83.3%) of subjects, moderately adequate knowledge among 5 (16.7%), adequate knowledge was 0 (0.0%) in control group of primary school teachers knowledge inadequate.

To compare the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.

Based on the above objective of the study, to assess the knowledge regarding learning disability in relation to findings of the pretest study a significant increase in the post knowledge score after the administration of self-instructional module.

Table 9 revealed the comparison of pretest and posttest knowledge score in experimental group in pretest mean score and standard deviation was 16.6±3.03 respectively and posttest mean score and standard deviation was 33.3±2.01. The P

value was 22.61 and P=0.001, in these primary school teachers have improved their knowledge from 16.62 to 33.3 on learning disabilities.

Table 11 shows the comparison of pretest and posttest knowledge score was in control group in this pretest mean score and standard deviation was 17.23±2.06 and posttest mean score and standard deviation was 19.13±2.11 and t=1.93, P=0.06 in this the primary school teachers lightly improved their knowledge.

To compare the posttest knowledge of experimental and control group of teacher regarding learning disabilities.

The table 12 revealed that the comparison of experimental and control group knowledge score and in pretest there is no significant difference between experimental and control group. Bu, after self - instructional module it is observed significance difference between experimental and control group.

Table 13 revealed the pretest knowledge score was 41.50% and posttest knowledge score was 83.25%. The teachers gain 41.75% more knowledge on learning disabilities after the administration of self -instructional module. This 41.75% of knowledge gain is the net benefit of this study, which indicates the effectiveness of self - instructional module.

To findout significant association between knowledge of experimental and control of primary school teachers and selected demographic variables regarding learning disabilities:

(i) Association between pretest level of knowledge and their demographic variables (experimental):

Table 14 shows the association between socio demographic variables and the pretest level of knowledge score among experimental group of teachers and none of the demographic variables are significantly associated with their knowledge score.

(ii) Association between posttest level of knowledge and their demographic variables:

Table 15 shows the association between the demographic variables and posttest level of knowledge in experimental group of teachers age (P=0.02) and years of experience (P=0.007) significantly associated with the posttest level of knowledge.

(iii) Association between the pretest and posttest level of knowledge and their demographic variables (Control group):

Table 16 and 17 shows the association between socio demographic variables and the pretest and posttest level of knowledge among the control of teachers. None of the demographic variables is significantly associated with their knowledge score.

SOCIO DEMOGRAPHIC VARIABLES:

In the study, experimental group shows that 33.3% of sample respondents are in the age group above 26-31 years and 32-37 years, 16% are in the age group of 20-25 years and above 40 years, similarly in control group 43.3% of samples are in the

age group of 26-31 years, 30% are in the age group 20-25 years 16.7% are in the age group 32-37 years, 10% are the age group of above 40 years. Thus, it can be interpreted that highest percentage was in the age group of 26-31 years. **Teachers age (P=0.02) group was statistically significant.**

The gender of teachers in experimental group is 33.3% are the male teachers, 66.7% are the female, teachers, similarly in control group 13.3% of are the male, 86.7% are the females teachers. It shows highest percentage is the female teachers. **In this P=1.00 statistically not significant.**

The educational qualification of the primary school teachers, in experimental group 80.01 teachers had teachers training certificate, 16.7% of Teachers had B.Ed., 3.3% of M.Ed., similarly in control group 60.0% of teachers had B.Ed., 3.3% of teachers had M.Ed. Highest percentage is teachers undergone teachers training course. In this P=0.39 statistically not significant.

Experience of teachers in experimental group 23.3% of the teachers are 1-5 years, experience 46.7% of the teachers had 5-10 years, of experience and 30.0% of the teachers are above 10 years of experience, control group shows 50.0% of teachers are 1-5 years of experience, 23.3% of teachers are 5-10 years of experience, 26.7% of teachers are above 10years of experience. It shows that most of the teachers are 1-5 years and 5-10 years of experience. **In this P=0.007 teachers experience was statistically significant.**

The majority of schoolteachers 23 (76.7%) in experimental group 20 (66.7%) in control group were married, 7 (23.3%) in experimental group, 10 (33.3%) in control group were unmarried. In this P=0.13 statistically not significant.

Child psychology in curriculum results in experimental group 70.0% had psychology in curriculum and remaining 30.0% teachers not had child psychology in curriculum. In control group 53.3% of had psychology in curriculum and remaining 46.7% of teachers not had child psychology in curriculum. In this P=0.23 shows statistically not significant.

It shows most of teachers had child psychology in their curriculum. Attended in service education in experimental group is 63.3% of teachers attended in service education and 36.7% of teachers not attended in service education. In control group 40.0% of teachers attended in service education, 60.0% of teachers not attended in service education. This show 50% of teaches attended in service education. In this P=0.25 shows statistically not significant.

Experience in teaching children with learning disability is experimental group 46.7% had experience, 53.3% had not experience. In control group 63.3% of teachers had experience and 36.7% of teachers had no experience in learning disability. In this P=0.86 shows statistically not significant.

The present study revealed that there was significant association between the knowledge age (P=0.02) and years of experience of teachers (P=0.007).

CHAPTER VI

SUMMARY, CONCLUSION AND RECOMMENDATION

INTRODUCTION:

The primary aim of the study was to identify the pretest knowledge score of teachers regarding learning disabilities after the administration of self - instructional module. In experimental group posttest, knowledge was assessed to find out the association between the knowledge of teachers and selected demographic variables.

OBJECTIVES OF THE STUDY:

1. To assess the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.
2. To compare the pretest and post test knowledge of experimental and control group of teachers regarding learning disabilities.
3. To compare the posttest knowledge of experimental and control group of teacher regarding learning disabilities.
4. To findout significant association between knowledge of experimental and control group of primary school teachers and selected demographic variables regarding learning disabilities.

The conceptual framework is adopted for the study is based on Roy adaptation's theory. In this study, review of literature is divided into two parts.

A. Studies related to learning disability

B. Studies related to knowledge of teachers related to learning disorders

METHODOLOGY:

The research design adopted for this study was quasi-experimental design and research approach adopted for this was to evaluative the educative approach. The sample size was 60 teachers. In this, 30 teachers were selected for experimental group and 30 for control group by purposive sampling method. Teachers were selected in selected schools at Erode District.

Data was collected by using structured questionnaire, this consists of two sections.

Section I – Demographic variables

Section II – Questionnaire regarding knowledge.

RESULT:

The finding of the experimental group of teachers pretest knowledge and mean score was 16.6 (41.50%) and level of knowledge was inadequate. In posttest knowledge score was 33.3 (83.25%). Now the level of knowledge was adequate in experimental group. Similarly, in the control group pretest knowledge mean score was 17.2 (43.00%) and posttest knowledge mean score was 19.1 (47.75%) in the comparison of experimental group and control group. In the pretest, there is no significance difference between the experimental and control group, but after self-instructional module, it observed significant difference between experimental and control group. Teachers gained knowledge above 41.75% more knowledge on learning disabilities after administration of self - instructional module. This 41.75% of knowledge gain is the net benefit of this study, which indicates the effectiveness of

self - instructional module learning disabilities in experimental group than in control groups.

The students' independent't' test and chi square shows there was significant association between posttest knowledge score and selected demographic variables in experimental group like age and experience of teachers than in control group.

CONCLUSION

The findings of the study were need of pediatric nurse to conduct training programme regarding learning disabilities among the primary school teachers. The study revealed that the level of knowledge regarding learning disability was low among school teachers in control group. They concluded that need for providing knowledge on learning disability is an important strategy utilize teachers as effective contributors towards child health services.

NURSING IMPLICATION:

The findings of the study have implications on the field of nursing education, nursing practice and nursing research.

Nursing education:

Nursing education is a measure for motivating the students 'to hunt for knowledge'. It has equipped nurses with essential knowledge skill and good attitudes for the prevention, promotion early detection and management of illness. Developmental of childhood disorders are important in paediatric, psychiatric and community nursing. School health services play on important part in the care of such children, student should be given necessary theoretical and practical knowledge on

school health programme and how to utilize other professionals like teachers in health care and curriculum should be given additional importance in developing communication skill of the student nurses for the better utilization of available resources.

Nursing practice:

Nurses play vital role in imparting health services in all levels, prevention, promotion and treatment. Nurses active participation in school health programmes by providing direct and indirect care helps to achieve these goals of health services. Teachers deficit in knowledge regarding learning disability indicate the need for arranging health education session in related topics.

Nursing research:

Researcher found scarcity in literature and research done on learning disability in nursing. So, the investigator recommends conducting periodic research on childhood disorders and role of nurses.

LIMITATIONS:

1. Knowledge of school teachers are assessed only through the structured questionnaire.
2. The study was restricted to selected schools in Erode.
3. The study was limited to primary school teachers.
4. The sample for the study was limited to do only.
5. The data was collected by purposive sampling

RECOMMENDATIONS:

1. A similar study can be undertaken on a large scale for making a more valid generalization.

2. A comparative study can be arranged among teachers in urban and rural schools.

3. A study can be done to analyze for practice of teachers towards learning disabled children.

4. An experimental study to evaluate the effectiveness of planned teaching program on learning disability can be undertaken.

5. A similar study can be arranged for parents of school children.

SUGGESTIONS FOR FURTHER STUDY:

1. Periodic revision of the teacher's training program and recommend for the incursion of more practical knowledge regarding learning disabilities.
2. Periodic assessment of teachers' knowledge regarding health related problems of school children to be conducted.
3. A study can be carried out to evaluate the efficiency of various teaching strategies like pamphlets. Leaflets and computer assisted instruction on learning disability.
4. The teaching and learning disabilities can be included in curriculum of teaching training programme.
5. A concentrated effort should be made to increase the awareness among the school teachers regarding their role in school health service.

CHAPTER VII

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ANNEXURE – I

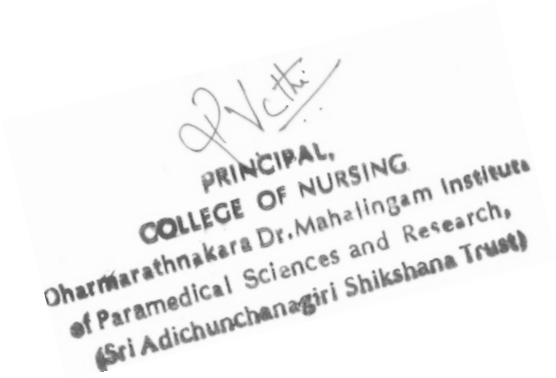
LETTER SEEKING PERMISSION TO CONDUCT PILOT STUDY

From

Mrs. K. Renugambal, M.Sc., (N), II Year,
(Speciality – Child Health Nursing),
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT),
Tamilnadu.

To

The Principal,
Jesus Nurery and Primary School,
Thiruvannamalai-606601.



Through,

The Principal,
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT).

Respected Sir /Madam,

Sub: Request for to conduct Pilot study-reg..

I am II year M.Sc., Nursing student of Dr.Mahalingam College of Nursing, Sakthi Nagar. As a partial fulfillment of Master of Science in Nursing, I have undertaken the following research study, which has to be submitted to The Tamilnadu Dr.M.G.R.Medical University, Chennai.

"A study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected schools at Appakudal, erode district".

TO WHOM WHOEVER IT MAY CONCERN

This is the certify that Mrs. K. Renugambal, M.Sc., (N) II Year has done her project work in our school with 1-5 standards school teachers. She doing her M.Sc., Course in Dr. Mahalingam college of Nursing in Sakthi Nagar.

Date :

Place :

By

Headmaster / Headmistress,
Jesus Nursery and Primary School,
Tiruvannamalai - 606 601.

ANNEXURE – II

LETTER SEEKING PERMISSION TO CONDUCT MAIN STUDY

From

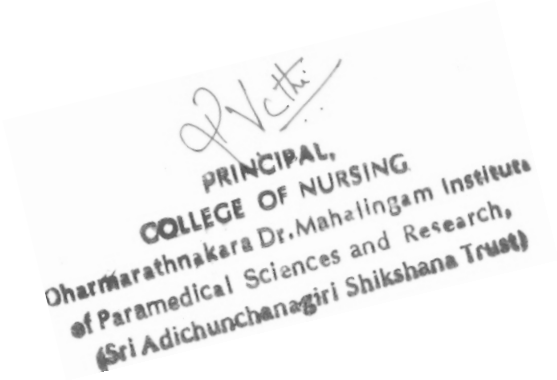
Mrs. K. Renugambal, M.Sc., (N), II Year,
(Speciality – Child Health Nursing),
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT),
Tamilnadu.

To

The Principal,
Sri Vivekanandha Vidhya Bhavan Matriculation Hr. Sec. School,
Sakthinagar,
Erode District.

Through,

The Principal,
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT).



Respected Sir /Madam,

Sub: Request for to conduct main study-reg..

I am II year M.Sc., Nursing student of Dr.Mahalingam College of Nursing, Sakthi Nagar. As a partial fulfillment of Master of Science in Nursing, I have undertaken the following research study, which has to be submitted to The Tamilnadu Dr.M.G.R.Medical University, Chennai.

"A study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected schools at Appakudal, Erode district".

I Kindly request you to permit met to do the study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected schools at Appakudal, Erode district with effect from 18.11.2009 to 23.11.2009

I kindly request you to permit me to conduct the proposed study and provide necessary facilities. Please do the needful.

Thanking You

Date :

Place :

Yours Sincerely,

(K. RENUGAMBAL)

R.PREMALATHA M.Sc.,B.Ed.,M.phil.,
PRINCIPAL
S.V.V.B. Mat. Hr. Sec' School.
SAKTHI NAGAR-638 315.

LETTER SEEKING PERMISSION TO CONDUCT MAIN STUDY

From

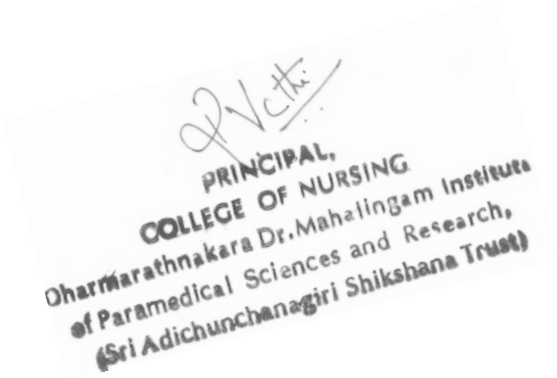
Mrs. K. Renugambal, M.Sc., (N), II Year,
(Speciality – Child Health Nursing),
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT),
Tamilnadu.

To

The Principal,
Kavitha Nursery Primary School,
Sakthinagar,
Erode District.

Through,

The Principal,
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT).



Respected Sir /Madam,

Sub: Request for to conduct main study-reg..

I am II year M.Sc., Nursing student of Dr.Mahalingam College of Nursing, Sakthi Nagar. As a partial fulfillment of Master of Science in Nursing, I have undertaken the following research study, which has to be submitted to The Tamilnadu Dr.M.G.R.Medical University, Chennai.

"A study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected schools at Appakudal, Erode district".

I Kindly request you to permit met to do the study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected schools at Appakudal, Erode district with effect from 24.11.09 to 30.11.2009

I kindly request you to permit me to conduct the proposed study and provide necessary facilities. Please do the needful.

Thanking You

Date :

Yours Sincerely,

Place :

(K. RENUGAMBAL)

Permitted

J. Dhanapakkiam
PRINCIPAL
Kavitha Nursery & Primary School

KAVITHA NURSERY & PRIMARY SCHOOL
ERODE-DT. TN.
Nagar-638315

LETTER SEEKING PERMISSION TO CONDUCT MAIN STUDY

From

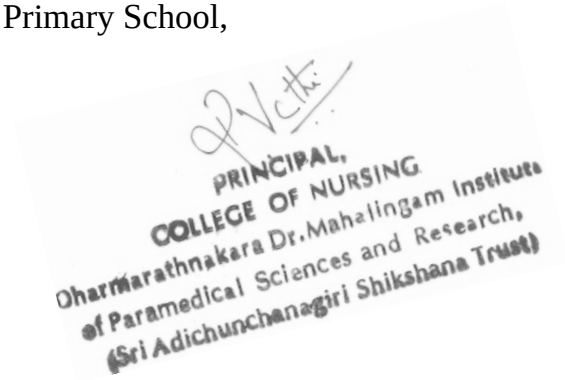
Mrs. K. Renugambal, M.Sc., (N), II Year,
(Speciality – Child Health Nursing),
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT),
Tamilnadu.

To

The Headmaster,
E.K.M. Abdul Gani Matharasa Islamia Primary School,
Erode District.

Through,

The Principal,
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT).



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"A study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected schools at Appakudal, Erode district".

I Kindly request you to permit met to do the study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected schools at Appakudal, Erode district" with effect from 11.11.09 to 17.11.2009

I kindly request you to permit me to conduct the proposed study and provide necessary facilities. Please do the needful.

Thanking You

Date :

Yours Sincerely,

Place :

(K. RENUGAMBAL)

Head Master I/C
E.K.M Abdul Gani
Madharasa Islamia Primary School
Erode - 638 001

ANNEXURE – III

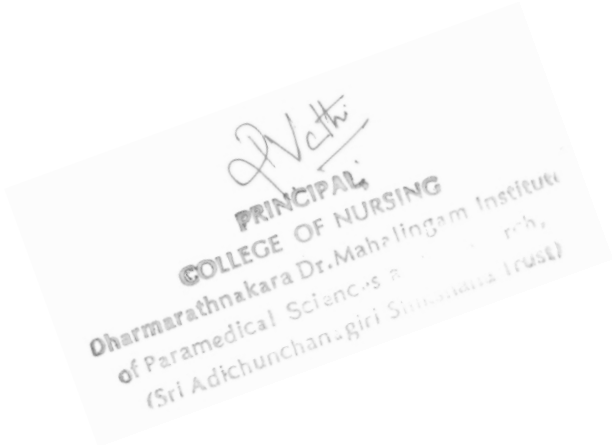
LETTER SEEKING EXPERT OPINION FOR TOOL VALIDATION

From

Mrs. K. Renugambal, M.Sc., (N), II Year,
(Speciality – Child Health Nursing),
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT),
Tamilnadu.

To

Through,
The Principal,
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT).



Respected Sir /Madam,

Sub: Request for the validation the tool-reg.

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"A study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected schools at Appakudal, Erode district".

ANNEXURE – IV

CONTENT VALIDITY CERTIFICATE

This is to certify that the student Mrs. K. Renugambal is studying in Final M.Sc., (N) Post graduate Degree course of Dharmarathnakara Dr. Mahalingam Institute of Paramedical sciences and Research, Sakthi Nagar.

Topic Entitled:

"A study to evaluate the effectiveness of self instructional module regarding learning disabilities of primary school children among primary school teachers of selected schools at Appakudal, Erode district".

Her content for the study is validated and was found reliable.

Date:
Place:

Vellalar College of Nursing
Maruthi Nagar, Thindal,
ERODE-9.

Signature of guide with seal

Principal
Vellalar College Of Nursing
Maruthi Nagar,
Thindal, Erode - 12.

CONTENT VALIDITY CERTIFICATE

This is to certify that the student Mrs. K. Renugambal is studying in Final M.Sc., (N) Post graduate Degree course of Dharmarathnakara Dr. Mahalingam Institute of Paramedical sciences and Research, Sakthi Nagar.

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Her content for the study is validated and was found reliable.

Place:

Date:

Signature of guide with seal

PRINCIPAL,
SHIVPARVATHI MANDRADIAR
INSTITUTE OF HEALTH SCIENCES.

CONTENT VALIDITY CERTIFICATE

This is to certify that the student Mrs. K. Renugambal is studying in Final M.Sc., (N) Post graduate Degree course of Dharmarathnakara Dr. Mahalingam Institute of Paramedical sciences and Research, Sakthi Nagar.

Topic Entitled:

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Her content for the study is validated and was found reliable.

Date:

Place:

Dr. N. Nugugam MBBS, DCH Regn. No. 66982

Signature of guide with seal

MEDICAL OFFICER
M KAILASAM HOSPITAL
SAKTHINAGAR - 638 315

CONTENT VALIDITY CERTIFICATE

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Her content for the study is validated and was found reliable.

Date:

Place:

N. Vijayalakshmi

Signature of guide with seal

ANNEXURE V

E.K.M. ABDUL GANI
MATHARASA ISLAMIA PRIMARY SCHOOL
16, CHELLA BATCHA STREET, ERODE - 638 001.

G.MUHAMMAD THAJ MUHYIDEEN B.Tech., Correspondent

B.MOOSA RAJA JUNAITHEE D.T.Ed., B.Lit., Head Master

Date : .....

TO WHOM WHOEVER IT MAY CONCERN.

This is to certify that Mrs. Renugambal M.Sc(N) II yr has done her project work in our school with 1-5 standard school teachers. She is doing her M.Sc Course in Dr. Mahalingam college of Nursing in Sakthi Nagar.

P.Navajeeth
Head Master I/C
E.K.M Abdul Gani
Matharasa Islamia Primary School
Erode - 638 001

Date :
Place : Erode

R.C.No.44918/E3/89
Jagadguru Sri Sri Sri Bala Gangatharanatha Maha Swamiji
Adi Chunchangiri Sikhsana Trust®
Ph: 04256-246384
04256-246618
Cell: 99428 34743

SRI VIVEKANANDA VIDHYA BHAVAN
MATRICULATION HIGHER SECONDARY SCHOOL
SAKTHI NAGAR - 638 315. APPAKKUDAL.

TO WHOM WHOEVER IT MAY CONCERN

This is to certify that Mrs. K. Renugambal M.Sc.(N) II year has done her Project work in our School with 1-5 standards school teachers. She is doing her M.Sc. Course in Dr. Mahalingam college of Nursing in Sakthi Nagar.

Date:
Place : Sakthi Nagar

R.PREMALATHA M.Sc.,P.Ed.,M.phil.,
PRINCIPAL
S.V.V.B. Mat. Hr. Sec' School
SAKTHI NAGAR-638 315

☎ 246276

KAVITHA
Nursery and Primary School
SAKTHI NAGAR - 638 315.
Erode Dist

Date 16.11.2009

To whom ever it may concern

This is the certify that Mrs. Renugambal, M.Sc.(N) II yr has done her Project work in our school with 1-5 standard school teachers. She is doing her Msc, Course in Dr. Mahalingam College of Nursing in Sakthinagar.

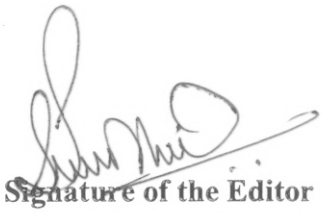
By
J. Dhanapakkiam
PRINCIPAL 16/11/2009
Kavitha Nursery & Primary School
SAKTHI NAGAR-638 315,
Erode-Dt.

CERTIFICATE BY THE EDITOR

This is to certify that the dissertation entitled "A Study to Evaluate the Effectiveness of Self – Instructional Module Regarding Learning Disabilities of Primary School Children Among the Primary School Teachers of Selected Schools at Appakudal, Erode District" is a bonafide research work done by Mrs.Renugambal.K. II Year M.Sc., (Nursing) student of Dharmarathnakara Dr.Mahalingam Institute of Paramedical Sciences & Research, Sakthi Nagar, Bhavani Taluk, Erode District. Mrs.T.S.Sumithra Devi., M.A., (M.Phil) edited this manuscript on behalf of the partial fulfillment of the prerequisite for the degree of **Master of Science in Nursing** (Paediatric Nursing).

Date:

Place: Sakthi Nagar



LIST OF EXPERTS

1. Prof. Mrs. R. Vasanthi, M.Sc., (N),

   Principal,

   Department of Child Health Nursing,

   Dr. Mahalingam College of Nursing,

   Erode- 638315.

2. Prof. Mrs. Kavimani, M.Sc., (N),

   Principal, Department of Child Health Nursing,

   Shivparvathi Mandradiar Institute of Health Sciences,

   Palayankottai- 638108.

3. Prof. Mrs. Vijayalakshmi, M.Sc., (N),

   HOD of Child Health Nursing,

   K.G. College of Nursing,

   Coimbatore.

4. Prof. Mrs. Prabavathi, M.Sc., (N),

   Principal,

   Department of Child Health Nursing,

   Vellalar College of Nursing,

   Erode – 12.

5. Dr. N. Murugan, M.B.B.S., D.C.H,

   Medical Officer,

   V.M.K. Hospital,

   Sakthi Nagar, Erode - 638315

ANNEXURE – VI
TOOL FOR THE STUDY –STRUCTURED QUESTIONAIRE

SECTION [I]

DEMOGRAPHIC DATA

CODE NUMBER

1. Age years
    a) 20-25 Years [ ]
    b) 26-31 Years [ ]
    c) 32-37 Years [ ]
    d) Above 40 Years [ ]
2. Gender
    a) Male [ ]
    b) Female [ ]
3. Educational qualification
    a) Teachers training programme [ ]
    b) B.Ed., [ ]
    c) M.Ed., [ ]
    d) Any other specify [ ]
4. Years of experience
    a) 1- 5 years [ ]
    b) 5-10 years [ ]
    c) Above 10 years [ ]
    d) None of the above [ ]
5. Marital status
    a) Married [ ]
    b) Unmarried [ ]
6. Did you have child psychology in curriculum?
    a) Yes [ ]
    b) No [ ]
7. Have you attended any inservice education on problem of learning?
    a) Yes [ ]
    b) No [ ]

8. Have you ever taught children with learning disability?
    a) Yes [ ]
    b) No [ ]

QUESTIONNAIRE ON KNOWLEDGE RELATED TO LEARNING DISABILITIES

SECTION [II]

1. Learning
    a) Starts from school admission [ ]
    b) Starts from birth [ ]
    c) Is acquired from teachers only [ ]
    d) Takes place only in school [ ]
2. Children in the same
    a) Possess same learning capacity [ ]
    b) Possess unique capacity [ ]
    c) Need same method of teaching [ ]
    d) Need same supervision [ ]
3. Problems related to learning is most common in
    a) Adolescents [ ]
    b) Adults [ ]
    c) Children [ ]
    d) Elderly [ ]
4. Number of children expected to have problems related to learning are,
    a) 1-2 % [ ]
    b) 3-7 % [ ]
    c) 10-15% [ ]
    d) 20-30% [ ]
5. Learning disability is common age
    a) Birth – 1 Years [ ]
    b) 2 – 3 years [ ]
    c) 4 – 5 Years [ ]
    d) None of above [ ]

6. Learning Disability Means
    a) Reading Disorders [ ]
    b) Writing Disorders [ ]
    c) Mathematical disorders [ ]
    d) All of the above [ ]
7. Learning Disability is a
    a) Neurological disorder [ ]
    b) Cardiac disorders [ ]
    c) Respiratory disorders [ ]
    d) All of the above. [ ]
8. Learning Disability constitute
    a) defect – in linking information from different parts of the brain [ ]
    b) defect in sensory functions [ ]
    c) Defect in physical functions [ ]
    d) None of the above. [ ]
9. A child with learning disability has
    a) Delayed milestones [ ]
    b) Poor emotional attachment with others [ ]
    c) Reduced self esteem [ ]
    d) Difficulty with school works. [ ]
10. Chance for the sibling to develop the same is
    a) Nil [ ]
    b) Rare [ ]
    c) High [ ]
    d) Definite [ ]
11. Reading means
    a) Uttering aloud [ ]
    b) Reproduce sound [ ]
    c) Correct pronunciation [ ]
    d) Comprehension [ ]

12. Mathematic means

a) Science of abstract thing [ ]

b) Science of concept [ ]

c) Science of space and number [ ]

d) Science of calculation [ ]

13. Most common type of Learning disability

a) Reading Disorder [ ]

b) Writing Disorder [ ]

c) Mathematical Disorder [ ]

d) Object learning disorder [ ]

14. Attention deficit hyperactivity disorders means

a) Is the inappropriate degrees of inattention, impulsiveness, Hyperactivity [ ]

b) Social interaction with others [ ]

c) Delayed milestones development [ ]

d) Is less activity of the children [ ]

15. Autism means

a) No social interaction [ ]

b) Is the hyperactivity of the children. [ ]

c) Emotional disorders [ ]

d) Sleep disorders [ ]

16. Learning Disability is due to,

a) Poor parenting [ ]

b) Influence of peer group [ ]

c) Poor economic status [ ]

d) Sibling rivalry [ ]

17. Learning disability is caused by

a) Infection [ ]

b) Genetic factors [ ]

c) Environmental factors [ ]

d) All of the above [ ]

18. Children with reading disorder

a) Can have stammering [ ]

b) Reed silently only [ ]

c) Omit words while reading [ ]

d) All of the above [ ]

19. Writing disorder includes

a) Slowness in writing [ ]

b) Multiple spelling errors [ ]

c) Laziness in writing [ ]

d) All of the above [ ]

20. Children with writing disorder

a) Avoid writing [ ]

b) Posses poor mental ideas to present [ ]

c) Posses poor organizations of paragraph [ ]

d) Perform punctuation errors [ ]

21. Mathematical disorders includes,

a) Difficulty in communication [ ]

b) Poor concentration [ ]

c) Difficulty in learning multiplication tables [ ]

d) Disinterest in studies [ ]

22. Early warning signs to learning disability

a) Poor performance of group tests. [ ]

b) Slowness in completing work [ ]

c) Good social adjustments [ ]

d) Normal thinking capacity [ ]

23. Learning disability manifested in the form of

a) Academic failures [ ]

b) School drop outs [ ]

c) Behavioral problems [ ]

d) All of the above [ ]

24. IQ of a child with Learning Disability is

a) Usually normal [ ]

b) Usually less than normal [ ]

c) Usually more than normal [ ]

d) Not related more than normal [ ]

25. Learning Disability can assessed by

a) Standardized test [ ]

b) Widal test [ ]

c) Western blot test [ ]

d) All of the above [ ]

26. Learning problem can be detected by

a) Blood test [ ]

b) X ray and CT scan [ ]

c) By physical examination of the child [ ]

d) By Academic assessment of the children [ ]

27. The first and the most efficient person to detect learning disability in children is

a) Psychiatrist [ ]

b) Psychologist [ ]

c) Teacher [ ]

d) Counselor [ ]

28. Attention deficit hyperactivity disorder is recognized by

a) Physical activity [ ]

b) Psychological testing [ ]

c) Behavioral checklist and adaptive scales [ ]

d) None of the above [ ]

29. Learning problem can be best managed by

a) Doctors [ ]

b) Nurses [ ]

c) Teachers [ ]

d) Psychologist [ ]

30. Children with learning disability can be better managed by

a) Normal schools [ ]

b) Special school meant for them [ ]

c) Home [ ]

d) Tuition centers [ ]

31. Mathematical problem is better treated by

a) Strict Discipline [ ]

b) Physical punishments [ ]

c) Repeated learning [ ]

d) Teaching using concrete objects [ ]

32. Autism can be managed by

a) Positive reinforcement [ ]

b) Increase social awareness of others [ ]

c) Punishments [ ]

d) Training and teach verbal communication skills [ ]

33. Attention deficit hyperactivity disorder is managed by

a) Pharmacological therapy [ ]

b) Behavioral therapy [ ]

c) Environmental manipulation [ ]

d) All of the above [ ]

34. Remedial teaching for reading disorder includes

a) Late exposure to school [ ]

b) Practice reading from different texts [ ]

c) Use multi-sensory instruction [ ]

d) Strict time limit for them to practice [ ]

35. Leaning problem will be improved

a) As the age progresses [ ]

b) By repeated teaching [ ]

c) By Native medicines [ ]

d) By prayer [ ]

36. Problems related to writing can be improved by

a) Additional home works [ ]

b) Punishments [ ]

c) Comparing with other children [ ]

d) Positive reinforcements [ ]

37. Learning disability is worsened by

a) Friendship with children poor in studies [ ]

b) Watching TV [ ]

c) Punishment [ ]

d) Play [ ]

38. Learning Disability if not treated earlier means

a) Poor academic performance [ ]

b) Emotional and behavioral problems [ ]

c) More prone to commit suicide [ ]

d) All of the above [ ]

39. Teachers should give information about child's learning problem to,

a) Their siblings [ ]

b) Other children [ ]

c) Their parents [ ]

d) School authorities [ ]

40. Learning Disability can be prevented by

a) Providing effective writing instruction [ ]

b) Repeated instruction to meet the individuals needs [ ]

c) Expecting that each child will learn to write [ ]

d) All of the above. [ ]

ANNEXURE – VII

"When I faltered,
Dear teacher… You held my hand,
When I doubted my self,
Dear teacher…. You believed in me"

SELF INSTRUCTIONAL MODULE ON LEARNING DISABILITIES

Prepared by,
K. Renugambal
M.Sc., (N) 2nd Year,
DMIPSR,
Erode

OBJECTIVES OF SELF INSTRUCTIONAL MODULE

After studying the module, you will be able to

- Recollect the significance of childhood problem
- Define learning disability
- Explain the prevalence of learning disability
- Enumerate the effect of learning disability on the child
- List down the types of learning disability
- Define reading disorder
- Describe the causes of reading disorder
- Explain the sings and symptoms of reading disorder
- Enumerate management of reading disorder
- Define disorders of written expression
- Explain the causes of written disorder
- Describe the clinical features of written disorder
- Enumerate the management of written disorder
- Define mathematical disorder
- List down the etiology of mathematical disorders
- Explain the clinical features of Mathematical Disorder
- Enumerate the management of mathematical Disorder
- Define autism disorder
- Enumerate the management of autism disorder
- Define the attention deficit hyper activity disorder
- Enumerate the management of ADHD

GUIDELINE TO USE THE SIM

1. Go through the outline given in the instruction
2. Go through the content of the SIM carefully and check your knowledge in each unit using the exercise given at the end of each unit.
3. You may refer to the glossary section if you find difficulty in understanding any term which is used in the content.

UNIT I

INTRODUCTION

Children are the nation's most important asset. A child spent most of his working hours in school with their teachers. So they play a significant role in the all round development of the child. A teacher who knows the developmental changes in children and conditions that after the normal development, can help in the early diagnosis and promotion of their health. The present study is aimed to assess the knowledge and attitude of school regarding learning disabilities among children. The investigator felt that it is necessary to develop a self instruction module in order to enhance the knowledge of teachers which may increase their attitude and confidence in identifying children with learning disability and managing them efficiently.

The module consists of Introduction, Objectives, Guidelines to use Self Instructional Module, Significance of the problem, Learning Disability, Reading disorder, written disorder, mathematical disorder and Role of nurses, Exercises, Answer keys and Reference.

UNIT II

CHILDHOOD ILLNESS – SIGNIFICANCE OF THE PROBLEM

A child is a miniature form of an adult. He had to undergo development in all dimensions – Physical, Intellectual, Emotional and Social maturation to function as a full fledged adult.

Defect in the development of any dimension can affect his integral maturation.

Disorders in development include pervasive developmental disorders and specific developmental disorders. Learning disorder comes under specific developmental disorder which is characterized by inadequate development in one specific area of functioning.

At least 10% of children from world's population have mental health problem. It is estimated that of all the children attending Child Guidance Clinic, 37% had neurotic problem, 12% had metal retardation, 14% had epilepsy, 25% had psychosis, and 7% developmental disorders. Despite the fact that children under 15 years of age constitute 40-50% of the population of the developing countries, a majority have little or no access to qualified help.

UNIT III

LEARNING DISABILITY

Definition

Learning Disability is defined as "A disorder that affect people's ability to either interpret what they see and hear or to link the information from different parts of the brain. Such difficulties extent to school work and can impede learning to read, write or do math."

Incidence and Prevalence

For the school year 1998-1999, 4.5% children (2.8 million) had been identified as having learning disabilities. In US, learning disability affect approximately 5% of all children enrolled in Public Schools. In European countries, the percentage of students learning in special schools range between 2.5 to 4.5% when 10-15% are in need of special education.

In India, of 20-33% of Psychiatric Disorders in school children have been reported. A clear evidence on the prevalence of learning disability in India is not available.

Etioloy

No single cause has been identified. The possible causes are

Genetic cause – It frequently occur in family members and there exist a 45% chance for the sibling of a learning disabled child to develop the same.

Neurological causes – Most likely cause appear to be a disorder of brain maturation or brain dysfunction which leads to defect interpreting what is seen and hear.

Social Factors – Frequent changes of school
Illiterate home background
School which provide very little personal attention.

Diagnosis

The diagnosis is based on standardized individually administered tests. To confirm the diagnosis, reports of parents and teachers are also used.

Types of Learning Disabilities

Reading Disorder (Dyslexia)

Writing Disorder (Dysgraphia)

Mathematical Disorder (Dyscalculia)

Autism Disorder

Attention Deficit Hyperactivity Disorder

Effect of learning disability on the child

Learning disability has to be identified and treated at the earliest because poor academic performance and repeated failures can reduce their self esteem and confidence in himself. It can lead on to emotional and behavioural problems. They are more prone to commit suicide also.

UNIT IV

READING DISORDER

Definition

Reading Disorder is characterised by a significant impairment in reading acquisition that does not have any demonstrable etioloy in a physical disorder, mental retardation, or environmental deprivation.

Clinical Features

1. **Inaccurate reading**
   - Problem in distinguishing letter forms especially that only in special orientation, and length of line. For eg “p” as “q” and “b” and “d”.
   - May recognise the printed form but forget which spoken word is equivalent
   - Misreading which include distortions, substitutions or omissions of words or morphemes. Distortion means confusion when pronouncing words i.e, “mawn lower” instead of “lawn mower”. Substitution usually occurs between phonetically and grammatically similar words for eg “read” as “red” and “pat” as “pad”. May high light non essential information and omit important points.
   - They are poor spellers, usually commit letter reversal mistakes.

   Difficulty in mastering rules of spelling for eg “beautiful” as “butiful”. In addition to that they misuse words and write incomplete and grammatically incorrect sentences.
   - Slow to learn and use new vocabulary words correctly.
2. **Slow reading**
   - Slowness in both oral and silent reading. It is suspected to be due to the child’s need to go back for comprehensions.
3. **Poor Comprehension**
   - The sentences they themselves use may the fragmented or poorly constructed. The child may find it difficult to draw inference from a story read aloud.

Prognosis:

It remain unnoticed in preschool age and most often diagnosed in grade in grade II.. Overtime, reading disorder tend to improve.

Management:

1. **Remedial teaching – It consists of following steps**
   A. Mastery of simple phonetic units- Understanding that words are made up of sounds and recognise skill and linguistic awareness (relationship between sound and meaning).
   B. Blending of these units into words or sentences.
   C. Make use of different senses – Multisensory, structured language instruction and practice using light, sound and touch when introducing new ideas. Using books – tape and assistive technology such as screen readers are beneficial.

   - Early exposure to oral reading, writing and drawing.
   - Practice reading from different kinds of text (books, magazines, comics)
   - Allow extra time for them to complete their assignments and help with note taking.

2. **Parental counselling:**
   - Help them to accept the child as such and make them understand that it is a sickness and not because of their laziness or lack of interest in studies. It can be managed only by proper guidance and tender care of those handling the children.
   - Provide practice in reading at home and listen to their reading and give correction constructively.

3. Counselling and Psychotherapy of child

- Positive reinforcement given immediately and contingently can accelerate the learning of readings skills.
- Provide Feed back of results such as rewards.
- Allowing child to plan their own program.
- Help with the emotional issues and arise from struggling to overcome academic difficulties.
- Handle these children with care and never belittle them in front of others.

UNIT V

DISORDERS OF WRITTEN EXPRESSION

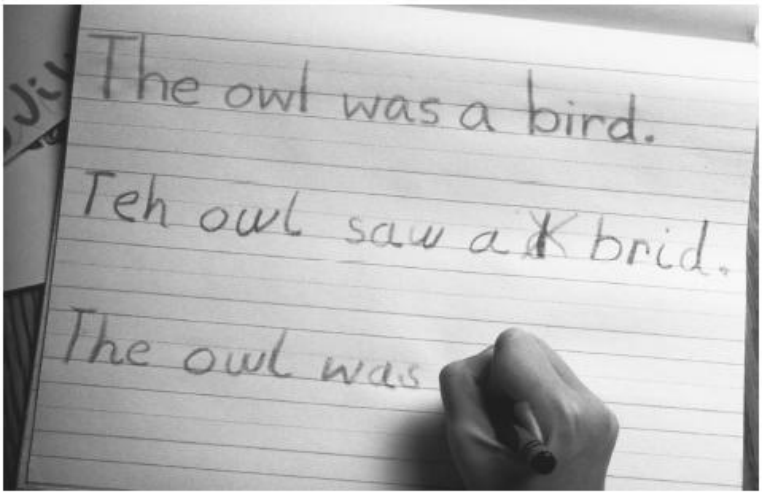
Definition

Disorder of written expression is a significant impairment in written communication that is not attributable to low intelligence, visual or hearing defect, neurological disorder, or lack of adequate instruction.

Clinical Features

1. Spelling errors – Of this most common is phonetic or grammatical errors in which misspelling resemble the way the word sounds.

Misspelling in the way the word sounds	FOTOGRAF for PHOTOGRAPH CAIM for CAME
Misspelling resemble a pronunciation or slurring of word	OFFEN for OFTEN
Morphological errors	LAUGHTED for LAUGHED
Segmental	A WAY for AWAY
Reversals	GOD for DOG
Spelling rule errors	BITTING for BITING



A sample of a letter written by a child with written disorder.

Each sentence will be having so many corrections and cuttings.

2. Punctuation Capituation errors

3. **Excessively poor handwriting**

- Letter forms are not readable
- Rotations or inversions of letters
- Mixture of printing and cursive writings
- Inappropriate mixture of upper case letters and lower case letters.
- Difficulty forming letter shapes.
- Inconsistent spacing between letters / words.
- Inability to write or draw in a line or within margins
- Tight awkward pencil grip and body positions.
- Tiring quickly while writing.

4. **Poor organization of paragraphs:**

- Difficulty in organizing thoughts on paper. Trouble keeping track of thoughts already written down
- Poor story composition like settings, character, themes etc.
- Poor cohesion (eg abrupt ending, transitions that are not smooth).

Prognosis

Diagnosis usually at the age of 8. Usually improve, but aspects of the disorder may remain throughout.

Management:

Formal instruction in writing

- Practice with writing
- Use paper with raised lines for a sensory guide to staying within the lines
- Try different pens and pencils to find one that is comfortable.
- Encourage proper grip and postures for writing.
- Use multi sensory techniques for learning letters, shapes and numbers. For eg. for writing b, “big stick down, circle away from my body”.
- Be patient and positive, encourage practice and praise effort.
- Allow extra time for writing
- Allow use of print or cursive- whichever is most comfortable.
- When organizing written projects, create a list of key words that will be useful.
- Counselling and Psychotherapy- Reinforce improvements in writing by rewards and avoid punishments.

UNIT VI

MATHEMATICS DISORDER

Definition

Mathematics Disorder is an impairment in the development of arithmetic or mathematical skill that is sufficiently serious to interfere with academic achievements or daily living.

Clinical Features:

1. Linguistic symptoms – Difficulty in understanding and naming mathematical terms, operations and concepts
    - Difficulty in decoding written problems into mathematical symbols
    - Understanding concepts use in mathematical problems like more or less, first and last, before and after.
2. Perceptual symptoms – Difficulty in recognizing and reading numerical symbols or arithmetic signs,
    - Clustering objects into groups
    - Aligning strings of numbers during calculation
    - Ordering strings of numbers

3. **Mathematical symptoms**
    - Difficulty in performing basic mathematical operations and in Memorizing numerical facts
    - Difficulty in following sequences of mathematical steps
    - Difficulty in Counting objects
    - Difficulty in Learning multiplication table
4. **Attention symptoms**

- Inaccurate copying of numbers
- Omitting digits, decimals or symbols when writing answers
- Forget to add in carried numbers
- Fail to notice arithmetical signs

Prognosis

Diagnosis is made in 2nd or 3rd grade. Prognosis not clear.

Management:

Special class room placement- It provide supplement remedial teaching.

Perceptual skill training

- It focus on skill like matching, sorting, and arranging objects
- Teach new concepts with concrete objects like pencil, sticks, blocks etc then move to abstract ideas.

Cognitive developmental teaching – In it teacher facilitate learning through areas of cognitive strength in the child.

Use graph paper fir students who have difficulty in organizing on plain paper.

Encourage them to ask doubts.

Help the student to understand his abilities and weakness.

UNIT VII

AUTISM DISORDER

Definition:

Autism spectrum disorders (ASD) are complex neurodevelopmental disorders of brain function accompanied by Intellectual and social behavioural deficits.

Incidence:

- During every childhood primarily from 24 to 48 maths of age.
- It occurs one in 166 children.
- 4 times in males than the female [4:1]

Etiology:

- Genetic Disorders of prenatal and postnatal brain development
- Immune and environmental factors [eg. Viral infections].
- Epileptic seizures
- Metabolic abnormalities
- Cerebellarvermal hypoplasia [Part of the brain involved in regulating motion and some aspect of memory]
- Associated with number of conditions, fragile X syndrome, tuberous sclerosis, metabolic disorders, fetal rubella syndrome, Haemophilus influenza, Meningitis, structural brain anomalies.
- Maternal ape of above 40 years.
- Uterine bleeding during
- Low apgar score, fetal distress
- Neonatal hyperbilirubinemia.

Clinical features:

1. One Hall Mark characteristic is the “inability to maintain eye content with another person”.
2. Avoidance of body contact.
3. Language delay at a very early age.
4. Constipation is common.
5. Congnitive function is impaired.

Diagnostic evaluation:

1. History Physical examination.
2. diagnostic criteria for autism children based on
    a. Qualitative Impairment in social interaction → facial expression, eye contact.

       Failure to develop peer relationship
    b. Qualitative Impairment in communications
    c. Restricted repetitive and stereo typed patterns of behaviour (eg. Whole body movement.
3. Blood CBC analysis
4. EEG, CT, MRI

Prognosis:

Prognosis is most favourable for children with communicative speech development by age 6 years and an IQ above 50 at time of diagnosis.

Management:

- Early Diagnosis of diseases
- Behavior modification programmes
- Positive reinforcement
- Increase social awareness of others
- Teach verbal communication skills

Nursing Management:

- Individual assessment
- Avoiding extraneous auditory and visual distractions
- Parent-attachment with children
- Teach feeding, food pattern behaviours.
- Give new situations / environment for children.
- Communication should be short and concrete level
- Parental counselling + play therapy, Musical therapy

Family support:

- Family counselling
- Give information above education, treatment, programs, techniques
- Give home care to the child.

UNIT VIII

ADHD (Attention Deficit Hyperactivity Disorder)

Definition:

ADHD refers to developmentally inappropriate degrees of inattention, impulsiveness and hyperactivity.

Incidences:

- Occurs before 7 years of age
- Woman males than females
- Ration 1:1

Etiology:

- Genetic disorders
- Brain dysfunction
- Autosomal recessive disorders
- Preterm baby

Clinical features:

- Poor academic performance
- Poor concentration
- Lack of interest in play

- Continuously crying

Diagnosis evaluation:

- History – Post medical history , Prenatal History
- Physical examination
- CT Scan, MRI
- Behavioural checklists and adaptive scales

Therapeutic Management:

1. Family education
2. counselling
3. Proper class room placement
4. Medication
5. Environmental manipulation
6. Behavioural therapy (or) psychotherapy for the child

Pharmacologic therapy:

- Psychostimulants methylphenidate Hydrochloride (Ritalin), Dextroamphetamine sulphate (Dexedrine).
- Atomoxetine (Stratters) a presynaptic norepinephrine transport inhibitor to be given child with ADHD.

Behavioural therapy: (BT):

- B.T → focuses on the prevention of undesired behaviour
- In includes delivering positive reinforcement, rewarding small increments of desired behaviours.
- Use of organisational charts for completing self care activities.

Environmental manipulation:

- Calm quiet- environment
- Teaching parents how to make organizational charts [eg. Listing all activities that must be performed before leaving for school].
- Reduce environment distractions.

Appropriate class room placement:

- Give clear rules and regulations
- Home work and classroom assignment – may need to be reduced.
- Give frequent break for childrens
- Give proper training with computers.
- Arrange limited classes for childrens
- Give time for playing.

Prognosis:

- Early identification of weakness and strength is basis need for child with ADHD.

Nursing Management:

- Proper explanation to the parents
- Frequent monitoring of Childs behaviours
- Administration of medications
- Advanced training for childrens.

- Avoid distractional environment.

UNIT IX

ROLE OF TEACHERS IN THE MANAGEMENT OF CHILDREN WITH LEARNING DISABILITY

Teachers play an important role in the identification of these children because the primary manifestation of this disorder is their difficulty in coping with everyday school tasks. Monitor each student's performance and involvement in the class room.

Identify and foster his abilities instead of repeatedly stressing the weakness.

Accept the child as such and avoid unnecessary punishments. Because their poor academic performance is not due to carelessness or inattention but it is a problem of the brain or in other words is an illness.

Ill treatments or labelling them as being stupid or lazy can lead to secondary symptoms like emotional problems, reduction in self esteem, behavioural problems and high suicidal rates.

Arrange counselling for parents and students.

Refer them to experts like Educations Psychologist, Psychiatrists, Counselor for further evaluation and suggestions.

Mental input in school plays a major role in the amelioration of learning problems in children.

Consider the fact that THERE IS NO STUDENT WITH LEARNING DISABILITY WHO CAN NOT LEARN, IF A TEACHER HAS APPROPRIATE SKILL AND WILLINGNESS TO SPEND THE TIME, USING HIS/HER EXPERTISE TO REACT AND TEACH THAT CHILD.

DATA COLLECTION

Pretest (questionnaires given to teachers before SIM)

INVESTIGATOR GIVING SELF INSTRUCTIONAL MODULE TO TEACHERS

READING THE SELF INSTRUCTIONAL MODULE

TEACHERS ASKING DOUBTS RELATED TO LEARNING DISABILITY

POST TEST (questionnaires given to teachers after SIM)